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ABSTRACT

This reference manual is designed to provide a comprehensive introduction to demographic data from the Census Bureau and is specifically designed for use by instructors participating in the Census Bureau college curriculum support project. The purpose of the manual is to provide an appropriate and up-to-date starting point for the new or prospective user of census statistics. It can also be used as a reference tool for the experienced data user. Presented in outline form to help instructors develop lecture material, the manual presents those facts or principles most relevant to understanding the 1970 census and related data. Ten chapters comprise the reference source. Following an introduction to the services and surveys offered by the Census Bureau, chapters follow relating to specific aspects of demographic data: subject content, geographic concepts, printed reports, computerized products and related services, unpublished data on microfilm or printouts, caveats and limitations of 1970 data, current demographic data, reference sources; and information about finding specific data. Numerous tables, charts, and graphs are included throughout the document. (Author/JR)

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Reference Manual on Population and Housing Statistics From the Census Bureau

March 1977

SP 010 347

U.S. Department of Commerce
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PREFACE

This Reference Manual is designed to provide a comprehensive introduction to "demographic" data from the Census Bureau, or more specifically, data about the population of the U.S. and their housing.

Many separate references exist for these data: the 1970 Census Users' Guide, the Bureau of the Census Catalog, a number of Data Access Descriptions and other publications, each serving a separate purpose, and to a certain extent some superceding others. The purpose of this manual is to provide an appropriate and up-to-date starting point for the new or prospective user, and a handy reference for the experienced data user. It presents those facts or principles most relevant to understanding the 1970 census and related data from current programs, being able to find desired data, and appreciating the definitions and limitations of those data. Where possible, existing publications are referred to for more complete discussions of particular topics, so as to avoid unnecessary repetition and, ultimately, to enhance the use of the other references. Bibliographic citations and ordering information for these references are given in Chapter 9.

This Reference Manual has been designed especially for use by instructors participating in the Census Bureau's college curriculum support project. It is presented in outline form for emphasis and to facilitate its use in developing lecture material. The manual is designed to complement A Student's Workbook on the 1970 Census (see p. 126) and to facilitate the attainment of the set of course unit objectives stated in the curriculum support project's Teacher's Guide.

Inquiries on further details of particular topics are welcome, and may be addressed to the Data User Services Division, Bureau of the Census, Washington, D.C. 20233.

Updates and supplements to this manual will be issued as appropriate. The reader is therefore urged to complete the form on page 147 to be placed on a mailing list to receive the supplements as they are issued.

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CHAPTER 1

INTRODUCTION

Section I: THE BUREAU OF THE CENSUS

A. Historical Notes

The Bureau of the Census traces its lineage back to the Constitution of the United States, which provided that

> "Representatives and direct taxes shall be apportioned among the several States which may be included within the Union according to their respective numbers... The actual enumeration shall be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years in such manner as they shall by law direct." (Article 1, Section 2)

The first census was taken in 1790 under the direction of Secretary of State Thomas Jefferson. Through 1900 the census organization was temporary, built up before each decennial census and disbanded after the work was finished. In early censuses the enumeration was supervised by U.S. marshals who rarely were able to give the task adequate time and attention. In 1902, the Congress set up a permanent office to take the census and collect other statistics. At first the office was in the Department of the Interior, but since 1913 it has been part of the Department of Commerce. Today, the U.S. Bureau of the Census is the principal general-purpose statistical agency of the Federal Government. There are several other large statistical agencies (Bureau of Labor Statistics, National Center for Educational Statistics, etc.) and dozens of agencies which generate additional statistics related to their own programs. Nonetheless, the Census Bureau is the source of the broadest range of federally produced data, conducting censuses of population and housing, manufactures, business, agriculture, governments, construction and mineral industries, and a wide variety of surveys.

The Census Bureau has been the source of a number of technological innovations during its career. These include the punch card, mechanical tabulating equipment, the first computer designed for mass data processing, and an optical sensing system coupled with microfilm for data input. The Bureau has had a similar pioneering role in the technology of data collection, in areas such as sampling, quality control, and data collection by mail. Many other countries have adopted data-collection methods developed at the Bureau. One section in the Bureau is devoted to training statisticians from developing countries.

(Further interesting historical notes, including notes on the growth of the census inquiry from only five questions in 1790, are contained in the brochure "Census USA.")

B. Organization

The Bureau of the Census is organized in accordance with two major subject areas: "demographic" fields, having to do with data about people and their housing; and "economic" fields, having to do with data about business or industrial establishments, farms, and local governments. Other units in the Bureau service both demographic and economic fields, e.g., data user services, field collection, geography, and statistical research.

The headquarters of the Bureau of the Census is in Suitland, Maryland, a surburb of Washington, D.C. Most data-collection activities are carried out through 12 regional offices around the country.

Section II: CENSUSES, SURVEYS, AND ADMINISTRATIVE RECORDS

Data are collected in one of three ways: by censuses, by surveys, or from administrative records. A census is a complete count of a population. The census of population and housing taken every 10 years[1] (the "decennial" census) reaches every household in the country. There are other lesser known censuses: of retail trade, of manufactures, of governments, and so forth, taken every 5 years. Census Bureau surveys, on the other hand, do not reach every member of a population, but only a scientifically selected sample from whom generalizations about the whole population are made.

Surveys are less expensive than censuses, they may be taken more often (many are taken annually and a few occur monthly and even weekly), and a wider variety of information can be obtained. Most surveys have a sample size large enough to support generalizations only at the national level, whereas the census of population and housing provides data for States, counties, cities, villages, neighborhoods, and even city blocks. Unfortunately, between each decennial census the data can become quite out of date, though some areas change more than others. Surveys help the user update the census in general, but usually will not be of any help for particular small areas.

A limited amount of data is also compiled through the administrative records of other agencies. Birth, death, tax, and other records are used in preparing estimates of the population between censuses.

While "census" refers to a particular type of data collection, the term "census data" is used loosely and may refer either to data from a particular census or to all types of data collected by the Census Bureau.

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[1] A new law authorizes a mid-decade census to be taken, beginning in 1985. The provisions of that law are discussed in Data User News, November 1976.

Section III: "SUMMARY DATA" AND CONFIDENTIALITY

Census data are published in unanalyzed form in detailed statistical tables. Users must pick out facts of interest from them, make comparisons, and draw their own conclusions.

Published census data include no information about individual people or households, but rather counts or frequencies of persons, families or housing units in different categories, as illustrated, for instance, in figure 4.1, page 35. In this way the answers of individual respondents are kept strictly confidential, as required by law. (The concept of summary data versus microdata or individual questionnaire records is further elaborated in the section on public use samples, page 68.)

A. Confidentiality of Current Census Records

Each 1970 census questionnaire stated "Your answers are CONFIDENTIAL. The law requires that you answer the questions to the best of your knowledge. Your answers will be used only for statistical purposes and cannot, by law, be disclosed to any person outside the Census Bureau for any reason whatsoever." Census records on individuals are not available to the Internal Revenue Service, the F.B.I. or anyone else. The Census Bureau has an unblemished record of maintaining strict adherence to both the letter and the spirit of the Federal law protecting confidentiality.

In an era of suspicion of government, it is not uncommon that students are sceptical that individual records of people are really kept confidential without exception. Perhaps the best example of the strength of the current census law and practice dates back to World War II when Japanese-Americans on the West Coast were being removed to detention camps. The War Department attempted to obtain a list of all Japanese-Americans enumerated in the 1940 census. In spite of the national emergency, the Census Bureau held to its position on the absolute confidentiality of individual records, and the War Department ultimately relented.

B. Availability of Early Census Records

Census records prior to 1910 were not covered by the current law. Records from the 1790 to 1880 censuses are available for inspection on microfilm at the National Archives regional offices and are used by many geneologists and others interested in family history. The 1890 census was mostly destroyed in a fire. Records from the 1900 census are available for inspection at the National Archives by qualified geneologists, historians, and other researchers.

Persons unable to obtain a birth certificate and needing a proof of age are able to request a search of old census records by the Census Bureau, for a fee. For example, a census affidavit that a person was recorded as being 9 years old in the 1920 census would be accepted for Medicare purposes as demonstrating that an individual was 65 in 1976. This service is available to the person enumerated and not to someone else wanting to find out about him or her.

CHAPTER 2

SUBJECT CONTENT OF THE 1970 CENSUS OF POPULATION AND HOUSING

Section I: HOW THE CENSUS WAS TAKEN

Census taking has traditionally involved enumerators going house to house asking questions and recording answers. The major innovation of the 1970 census was "census-by-mail." All households received a questionnaire in the mail and were asked to complete it on Census Day, April 1, 1970. In "census-by-mail" areas, covering about three-fifths of the population, mostly in metropolitan areas, the householder then merely put his questionnaire in the mail to the Census Bureau. As forms came in they were checked against a master list of addresses compiled in advance with Postal Service assistance, and households not responding were contacted by personal visit. In other areas, where it was not feasible to set up census-by-mail, each householder kept the completed questionnaire until an enumerator picked it up a few days later.

The mail procedure has several important advantages. Answers are more accurate, since the householder has time to think over the questions and to consult household records. Costs are reduced because fewer enumerators are needed. There is less chance of houses or multi-unit structures being missed since a thorough listing of addresses is compiled in advance. And finally, the procedure offers greater privacy to the respondent.

The form the respondent filled out was designed to be "read" by an optical scanning system sensing blackened dots on the page, as can be seen in the facsimile questionnaire on pages 10 to 16. After some checking and coding by personnel in census offices the questionnaires were photographed onto microfilm, read by the optical scanning system (called FOSDIC) and recorded on computer tape. These tapes were then processed by computer to produce data tables as described later in the chapters on data products (chapters 4 to 6).

(Data collection procedures are described further in the 1970 Census Users' Guide, Part I, pages 21 to 28, and in considerable detail in the 1970 Census of Population and Housing: Procedural History, PHC(R)-1.)

Section II: TYPES OF 1970 CENSUS QUESTIONNAIRES

A. Short Form Questionnaire

Most households in the United States (80%, to be specific) got a fold-out "short form" questionnaire corresponding to pages 10 and 11. The questionnaire contained space for basic information about up to eight persons in the household (age, race, sex, etc.) and a number of questions about the housing unit. If a household had more than eight members, an enumerator followed up by phone.

B. Long Form Questionnaires

Twenty percent of all households, scattered evenly throughout all areas, completed a long-form questionnaire. The long form started with all of the above complete-count questions, added another page of housing questions, then a pair of extra pages for each of the people in the household. The questions asked only on long forms and not on short forms are referred to as sample questions. Since there were more sample questions than it seemed reasonable to ask of any one householder, two versions of the long-form questionnaire were used. One went to 15 percent of all households, the other went to 5 percent. About half of the sample questions were asked on both versions and are referred to as 20-percent questions, but the remainder were unique to either the 15-percent or 5-percent version.

The facsimile of the census questionnaire on pages 10 to 16 is constructed so as to illustrate all census questions. The actual long form questionnaire used contained either 15-percent or 5-percent data, not both; and the sample questions for persons were repeated on pairs of facing pages, one for each household member.

Section III: SAMPLE SIZE AND ITS SIGNIFICANCE

A. Sample Size

As noted above, there were three types of questionnaires used: a short form, a 15-percent long form and a 5-percent long form. Their combination yielded four levels of sample size:

- Complete count or 100-percent data - data derived from the contents of the short form, which also appeared on both long forms;
- 20-percent sample data - data derived from those questions common to both long forms, including the most significant socioeconomic variables: education, income, employment, etc;
- 15-percent sample data - data derived from those items unique to the 15-percent long form; and
- 5-percent sample data - data derived from those items unique to the 5-percent long form.

The data subjects collected at each level of sampling are indicated in figure 2.1.

Data collected on a sample basis are weighted up or inflated to produce estimates of what a complete count would have found. For example, in the 20-percent sample a respondent would have been counted as representing five persons, on the average. When published, sample data look

Figure 2.1 Subject Items Included in the 1970 Census

COMPLETE COUNT DATA ITEMS
-Shown for all census areas including city blocks

	Population Items	Housing Items
100 percent	Relationship to head of household	Number of units at this address
	Color or race	Telephone
	Age	Private entrance to living quarters
	Sex	Complete kitchen facilities
	Marital status	Rooms
		Water supply
		Flush toilet
		Bathtub or shower
		Basement
		Tenure (owner/renter)
		Commercial establishment on property
		Value
		Contract rent
		Vacancy status
		Months vacant

SAMPLE DATA ITEMS
-Not shown in some reports, e.g., Block Statistics
-Summaries are subject to sampling variability

	Population Items	Housing Items
20 percent	State or country of birth	Components of gross rent
	Years of school completed	Heating equipment
	Number of children ever born	Year structure built
	Employment status	Number of units in structure and whether a trailer
	Hours worked last week	Farm residence
	Weeks worked in 1969	
	Last year in which worked	
	Occupation, industry, and class of worker	
	Activity 5 years ago	
	Income in 1969 by type	
15 percent	Country of birth of parents	Source of water
	Mother tongue	Sewage disposal
	Year moved into this house	Bathrooms
	Place of residence 5 years ago	Air conditioning
	School of college enrollment (public or private)	Automobiles
	Veteran status	
	Place of work	
	Means of transportation to work	
5 percent (These variables not in *Census Tracts* reports)	Mexican or Spanish origin or descent	Stories, elevator in structure
	Citizenship	Fuel—heating, cooking, water heating
	Year of immigration	Bedrooms
	When married	Clothes washing machine
	Vocational training completed	Clothes dryer
	Presence and duration of disability	Dishwasher
	Occupation—industry 5 years ago	Home food freezer
		Television
		Radio
		Second home

DERIVED VARIABLES (illustrative examples)

Population Items	Housing Items
Families	Persons per room ("crowding")
Family type and size	Household size
Poverty status	Plumbing facilities
Spanish surname	Institutions and other group quarters
Spanish heritage	Gross rent
Population density	
Size of place	
Foreign stock	

NOTE: This figure appears as figure 1 in the Student Workbook.

about the same as complete count data, but a small note under the title usually says "Data based on sample, see text."

B. It is important to consider the reasons for having complete-count and sample data, and the effects that the sample sizes have on the tabulation of data.

1. Complete-Count Data

A complete count of the population is necessary to determine apportionment of Congressional seats among States, and for redistricting within States to assure equal representation.

Statistics for small areas such as city blocks or small towns are possible only from complete-count data.

Figures from the complete count are necessary to serve as target figures when sample data are inflated to represent the total population.

Complete-count data are published for all sizes and types of geographic areas.

2. Sample Data

Sampling is more efficient and economical than asking questions of everyone. Also, it reduces for most people the amount of time they have to spend filling out the questionnaire, since 80 percent of the population received only a short form.

The amount of chance error present between an inflated sample figure and a corresponding complete count is relatively small for large areas or large populations, and sample data are fully satisfactory for most purposes. However, for areas with small populations, such as census tracts, sample data should be used with caution (as further discussed in chapter 7).

Sample data are not generally published for very small areas. In particular, there are no published sample data for city blocks, places less than 2,500, or minor civil divisions and census county divisions. Census Tracts reports provide 20-percent and 15-percent data but not 5-percent data. In fact 5-percent population data are usually only published for States and large metropolitan areas.

With the exception of data for city blocks, sample data can be obtained for smaller areas but only on computer summary tapes, as discussed in chapter 5.

Section IV: QUESTIONS ASKED IN THE 1970 CENSUS

There are several ways to become familiar with 1970 census questions. Figure 2.1 is a list of subjects asked in the census. It is also useful to review a facsimile of the questionnaire on pages 10 to 16 to see the wording of questions and the options people had for answering. Data Access Description No. 14, "Items Contained in the 1970 Census" gives the question wording along with some background on why it was asked and how it related to the corresponding question in the 1960 census. Complete definitions, coding procedures, and references to variables derived from the questions are included in:

- the "Census Users' Dictionary," published as part of the 1970 Census Users' Guide, Part I;
- Appendix B of the PC(1), HC(1), and PHC(1) series (only for the variables in the reports - also gives facsimiles of the relevant parts of the questionnaire and respondent instructions included with the questionnaire); and
- Chapter 15 of the Procedural History, PHC(R)-1 or -1G (also explains how each subject was treated during collection and processing, including editing and imputation procedures for missing or inconsistent data).

When reviewing the facsimile of the census questionnaire it is useful to note four types of census variables.

A. Direct Variables

For most items, the respondent answered simply by filling in one of several circles which indicated the category relevant to the respondent. These items were generally summarized for publication in the same categories.

B. Coded Variables

Other items required write-in answers, which were then coded for specific categories by Census Bureau coding specialists before computer processing. Question 19a (residence in 1965) and question 34 (occupation) are good examples: it was not feasible to list all possible answers that could simply be checked off, so the respondent wrote in the answer.

C. Derived Variables

Some census variables were derived from responses to a combination of questions or persons. Families, for example, were defined by the responses of household members to question 2 (page 10) on household relationship. Presence of "complete plumbing facilities," a summary item in the publications, was derived from items H5, H6, and H7 (page 11) indicating a household's exclusive use of hot and cold piped water, flush toilet, and a bathtub or shower. Other derived variables are at the bottom of figure 2.1.

D. Screening Questions

Some items were intended primarily for editing responses. Question 10 was designed to identify mobile homes or multi-unit structures, houses on places of 10 acres or more, and commercial establishments, all of which were excluded from the scope of the question on home value (H11). Similarly, question 31 asked whether the respondent had been looking for work, so as to define whether the person was actually in the labor force --a universe for which many other items were tabulated. There was no tabulation of question 31 as such.

Section V: QUESTIONS ASKED IN PREVIOUS CENSUSES

The content of the 1970 census was similar to the 1960 census. Concept definitions in the "Census Users' Dictionary" (1970 Census Users' Guide) make special note of changes between 1960 and 1970 questions.

Items on census schedules from 1790 to 1970 are shown in the Bureau of the Census Working Paper No. 39, "Population and Housing Inquiries in U.S. Decennial Censuses, 1790-1970." This publication presents facsimiles of the questionnaires or data collection forms back to 1790.

80, 15, and 5 percent (100 percent)

10

1. WHAT IS THE NAME OF EACH PERSON who was living here on Wednesday, April 1, 1970 or who was staying or visiting here and had no other home?	2. HOW IS EACH PERSON RELATED TO THE HEAD OF THIS HOUSEHOLD?	3. SEX	4. COLOR OR RACE	5. DATE OF BIRTH: Month and year of birth and age last birthday	6. Month of birth	7. Year of birth	8. WHAT IS EACH PERSON'S MARITAL STATUS?
Print name in the order	Head of the household; Wife of head; Unmarried children under 18; Married children and their families; Other relatives of the head; Persons not related to the head	Fill one circle	Fill one circle. If "Indian (Amer.)" also give tribe. If "Other" also give race	Print	Fill one circle	Fill one circle for first three numbers; Fill one circle for last number	Fill one circle
(1) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(2) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(3) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(4) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(5) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(6) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(7) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(8) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race; Indian (Amer.) Print tribe	Month; Year; Age	Jan. Mar.; Apr. June; July Sept.; Oct. Dec.	186 187 188 189 190 191 / 192 193 194 195 196 197 / 0 1 2 3 4 / 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married

17

9. [illegible] —Are there any other persons in this household? Yes / No. (To avoid [illegible] we will call to get the information.)

10. Did you leave anyone out of Question 1 because you were not sure if he should be listed—for example, a new baby still in the hospital or a lodger who also has another home? Yes / No. On back page give names and reason left out.

11. Did you list anyone in Question 1 who is away from home now—for example, on a vacation or in a hospital? Yes / No. On back page give names and reason person is away.

12. Did anyone stay here on Tuesday, March 31, who is not already listed? Yes / No. On back page give name of each visitor for whom there is no one at his home address to report him in a census taker.

26 1

80, 15, and 5 percent (100 percent)

A. How many living quarters, occupied and vacant, are at this address?

- One
- 2 apartments or living quarters
- 3 apartments or living quarters
- 4 apartments or living quarters
- 5 apartments or living quarters
- 6 apartments or living quarters
- 7 apartments or living quarters
- 8 apartments or living quarters
- 9 apartments or living quarters
- 10 or more apartments or living quarters
- This is a mobile home or trailer

Answer these questions for your living quarters

H1. Is there a telephone on which people in your living quarters can be called?

- Yes → What is the number? _____ *Phone number*
- No

H2. Do you enter your living quarters—

- Directly from the outside or through a common or public hall?
- Through someone else's living quarters?

H3. Do you have complete kitchen facilities?
Complete kitchen facilities are a sink with piped water, a range or cook stove, and a refrigerator.

- Yes, for this household only
- Yes, but also used by another household
- No complete kitchen facilities for this household

H4. How many rooms do you have in your living quarters?
Do not count bathrooms, porches, balconies, foyers, halls, or half-rooms.

- 1 room
- 2 rooms
- 3 rooms
- 4 rooms
- 5 rooms
- 6 rooms
- 7 rooms
- 8 rooms
- 9 rooms or more

H5. Is there hot and cold piped water in this building?

- Yes, hot and cold piped water in this building
- No, only cold piped water in this building
- No piped water in this building

H6. Do you have a flush toilet?

- Yes, for this household only
- Yes, but also used by another household
- No flush toilet

H7. Do you have a bathtub or shower?

- Yes, for this household only
- Yes, but also used by another household
- No bathtub or shower

H8. Is there a basement in this building?

- Yes
- No, built on a concrete slab
- No, built in another way *(include mobile homes and trailers)*

H9. Are your living quarters—

- Owned or being bought by you or by someone else in this household? *Do not include cooperatives and condominiums here.*
- A cooperative or condominium which is owned or being bought by you or by someone else in this household?
- Rented for cash rent?
- Occupied without payment of cash rent?

H10a. Is this building a one-family house?

- Yes, a one-family house
- No, a building for 2 or more families or a mobile home or trailer

b. *If "Yes"*— Is this house on a place of 10 acres or more, or is any part of this property used as a commercial establishment or medical office?

- Yes, 10 acres or more
- Yes, commercial establishment or medical office
- No, none of the above

H11. *If you live in a one-family house which you own or are buying*—
What is the value of this property; that is, how much do you think this property (house and lot) would sell for if it were for sale?

- Less than $5,000
- $5,000 to $7,499
- $7,500 to $9,999
- $10,000 to $12,499
- $12,500 to $14,999
- $15,000 to $17,499
- $17,500 to $19,999
- $20,000 to $24,999
- $25,000 to $34,999
- $35,000 to $49,999
- $50,000 or more

If this house is on a place of 10 acres or more, or if any part of this property is used as a commercial establishment or medical office, do not answer this question.

H12. *Answer this question if you pay rent for your living quarters.*

a. *If rent is paid by the month*—
What is the monthly rent?

Write amount here → $ _____.00 *(Nearest dollar)*

and

Fill one circle

- Less than $30
- $30 to $39
- $40 to $49
- $50 to $59
- $60 to $69
- $70 to $79
- $80 to $89
- $90 to $99
- $100 to $119
- $120 to $149
- $150 to $199
- $200 to $249
- $250 to $299
- $300 or more

b. *If rent is not paid by the month*—
What is the rent, and what period of time does it cover?

$ _____.00 per _____
(Nearest dollar) *(Week, half-month, year, etc.)*

FOR CENSUS ENUMERATOR'S USE ONLY

a4. Block number

a5. Serial number

a4. Block number	a5. Serial number
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

B. Type of unit or quarters

Occupied
- First form
- Continuation

Vacant
- Regular
- Usual residence elsewhere

Group quarters
- First form
- Continuation

For a vacant unit, also fill C, D, A, H2 to H8, and H10 to H12

C. Vacancy status

Year round—
- For rent
- For sale only
- Rented or sold, not occupied
- Held for occasional use
- Other vacant

- Seasonal
- Migratory

D. Months vacant

- Less than 1 month
- 1 up to 2 months
- 2 up to 6 months
- 6 up to 12 months
- 1 year up to 2 years
- 2 years or more

C/O

15 and 5 percent

H13. *Answer question H13 if you pay rent for your living quarters.*

In addition to the rent entered in H12, do you also pay for—

a. Electricity?
- ○ Yes, average monthly cost is → $ _____ .00 *Average monthly cost*
- ○ No, included in rent
- ○ No, electricity not used

b. Gas?
- ○ Yes, average monthly cost is → $ _____ .00 *Average monthly cost*
- ○ No, included in rent
- ○ No, gas not used

c. Water?
- ○ Yes, yearly cost is → $ _____ .00 *Yearly cost*
- ○ No, included in rent or no charge

d. Oil, coal, kerosene, wood, etc.?
- ○ Yes, yearly cost is → $ _____ .00 *Yearly cost*
- ○ No, included in rent
- ○ No, these fuels not used

H14. **How are your living quarters heated?**
Fill one circle for the kind of heat you use most.
- ○ Steam or hot water system
- ○ Central warm air furnace with ducts to the individual rooms, or central heat pump
- ○ Built-in electric units *(permanently installed in wall, ceiling, or baseboard)*
- ○ Floor, wall, or pipeless furnace
- ○ Room heaters with flue or vent, burning gas, oil, or kerosene
- ○ Room heaters without flue or vent, burning gas, oil, or kerosene *(not portable)*
- ○ Fireplaces, stoves, or portable room heaters of any kind
- In some other way—*Describe* → _____
- ○ None, unit has no heating equipment

H15. **About when was this building originally built?** *Mark when the building was first constructed, not when it was remodeled, added to, or converted.*
- ○ 1969 or 1970
- ○ 1965 to 1968
- ○ 1960 to 1964
- ○ 1950 to 1959
- ○ 1940 to 1949
- ○ 1939 or earlier

H16. **Which best describes this building?**
Include all apartments, flats, etc., even if vacant.
- ○ A one-family house detached from any other house
- ○ A one-family house attached to one or more houses
- ○ A building for 2 families
- ○ A building for 3 or 4 families
- ○ A building for 5 to 9 families
- ○ A building for 10 to 19 families
- ○ A building for 20 to 49 families
- ○ A building for 50 or more families
- ○ A mobile home or trailer
- Other— *Describe* _____

H17. **Is this building—**
- ○ On a city or suburban lot? — *Skip to H19*
- ○ On a place of less than 10 acres?
- ○ On a place of 10 acres or more?

H18. **Last year, 1969, did sales of crops, livestock, and other farm products from this place amount to—**
- ○ Less than $50 (or None)
- ○ $50 to $249
- ○ $250 to $2,499
- ○ $2,500 to $4,999
- ○ $5,000 to $9,999
- ○ $10,000 or more

H19. **Do you get water from—**
- ○ A public system *(city water department, etc.)* or private company?
- ○ An individual well?
- ○ Some other source *(a spring, creek, river, cistern, etc.)*?

H20. **Is this building connected to a public sewer?**
- ○ Yes, connected to public sewer
- ○ No, connected to septic tank or cesspool
- ○ No, use other means

H21. **How many bathrooms do you have?**
A complete bathroom is a room with flush toilet, bathtub or shower, and wash basin with piped water.

A half bathroom has at least a flush toilet or bathtub or shower, but does not have all the facilities for a complete bathroom.
- ○ No bathroom, or only a half bathroom
- ○ 1 complete bathroom
- ○ 1 complete bathroom, plus half bath(s)
- ○ 2 complete bathrooms
- ○ 2 complete bathrooms, plus half bath(s)
- ○ 3 or more complete bathrooms

15 percent

H22. **Do you have air-conditioning?**
- ○ Yes, 1 individual room unit
- ○ Yes, 2 or more individual room units
- ○ Yes, a central air-conditioning system
- ○ No

H23. **How many passenger automobiles are owned or regularly used by members of your household?**
Count company cars kept at home.
- ○ None
- ○ 1 automobile
- ○ 2 automobiles
- ○ 3 automobiles or more

[redacted]

H24a. How many stories (floors) are in this building?

- ○ 1 to 3 stories
- ○ 4 to 6 stories
- ○ 7 to 12 stories
- ○ 13 stories or more ■

b. *If 4 or more stories—*
Is there a passenger elevator in this building?

○ Yes ○ No

H25a. Which fuel is used most for cooking? ■

Gas — From underground pipes serving the neighborhood	○	Coal or coke	○
Gas — Bottled, tank, or LP	○	Wood	○
Electricity	○	Other fuel	○
Fuel oil, kerosene, etc.	○	No fuel used	○

b. Which fuel is used most for house heating? ■

Gas — From underground pipes serving the neighborhood	○	Coal or coke	○
Gas — Bottled, tank, or LP	○	Wood	○
Electricity	○	Other fuel	○
Fuel oil, kerosene, etc.	○	No fuel used	○

c. Which fuel is used most for water heating? ■

Gas — From underground pipes serving the neighborhood	○	Coal or coke	○
Gas — Bottled, tank, or LP	○	Wood	○
Electricity	○	Other fuel	○
Fuel oil, kerosene, etc.	○	No fuel used	○

H26. How many bedrooms do you have?
Count rooms used mainly for sleeping even if used also for other purposes.

○ No bedroom		○ 3 bedrooms	
○ 1 bedroom	■	○ 4 bedrooms	
○ 2 bedrooms		○ 5 bedrooms or more	

H27a. Do you have a clothes washing machine?

- ○ Yes, automatic or semi-automatic
- ○ Yes, wringer or separate spinner
- ○ No

b. Do you have a clothes dryer?

- ○ Yes, electrically heated
- ○ Yes, gas heated
- ○ No ■

c. Do you have a dishwasher *(built-in or portable)*?

○ Yes ○ No

d. Do you have a home food freezer which is separate from your refrigerator?

○ Yes ○ No

H28a. Do you have a television set? *Count only sets in working order.*

- ○ Yes, one set
- ○ Yes, two or more sets
- ○ No

b. *If "Yes"*— Is any set equipped to receive UHF broadcasts, that is, channels 14 to 83?

○ Yes ○ No ■

H29. Do you have a battery-operated radio?
Count car radios, transistors, and other battery-operated sets in working order or needing only a new battery for operation.

○ Yes, one or more ○ No

H30. Do you (or any member of your household) own a second home or other living quarters which you occupy sometime during the year?

○ Yes ○ No

3 percent

The 15-percent and 5-percent forms contain a pair of facing pages for each person in the household (as listed on page 2). Shown on each pair of pages in the 15-percent form are the questions designated as 15-percent here on pages 6, 7, and 8. Shown on each pair of pages in the 5-percent form are the questions designated as 5-percent here on pages 6, 7, and 8.

Name of person on line (1) of page 2

Last name | First name | Initial

15 and 5 percent

13a. Where was this person born? *If born in hospital, give State or country where mother lived. If born outside U.S., see instruction sheet; distinguish Northern Ireland from Ireland (Eire).*

- ○ This State

OR

(Name of State or foreign country; or Puerto Rico, Guam, etc.)

5 percent

b. Is this person's origin or descent— *(Fill one circle)*

- ○ Mexican
- ○ Puerto Rican
- ○ Cuban
- ○ Central or South American
- ○ Other Spanish
- ○ No, none of these

15 percent

14. What country was his father born in?

- ○ United States

OR

(Name of foreign country; or Puerto Rico, Guam, etc.)

15. What country was his mother born in?

- ○ United States

OR

(Name of foreign country; or Puerto Rico, Guam, etc.)

5 percent

16. *For persons born in a foreign country—*

a. Is this person naturalized?

- ○ Yes, naturalized
- ○ No, alien
- ○ Born abroad of American parents

b. When did he come to the United States to stay?

○ 1965 to 70	○ 1950 to 54	○ 1925 to 34
○ 1960 to 64	○ 1945 to 49	○ 1915 to 24
○ 1955 to 59	○ 1935 to 44	○ Before 1915

15 percent

17. What language, other than English, was spoken in this person's home when he was a child? *Fill one circle.*

- ○ Spanish
- ○ French
- ○ German
- ○ Other— *Specify* _____
- ○ None, English only

18. When did this person move into this house (or apartment)? *Fill circle for date of last move.*

○ 1969 or 70	○ 1965 or 66	○ 1949 or earlier
○ 1968	○ 1960 to 64	○ Always lived in this house or apartment
○ 1967	○ 1950 to 59	

19a. Did he live in this house on April 1, 1965? *If in college or Armed Forces in April 1965, report place of residence there.*

- ○ Born April 1965 or later — *Skip to 20*
- ○ Yes, this house ..... — *Skip to 20*
- ○ No, different house

b. Where did he live on April 1, 1965?

(1) State, foreign country, U.S. possession, etc. _____

(2) County _____

(3) Inside the limits of a city, town, village, etc.?

- ○ Yes
- ○ No

(4) *If "Yes,"* name of city, town, village, etc. _____

15 percent

20. Since February 1, 1970, has this person attended regular school or college at any time? *Count nursery school, kindergarten, and schooling which leads to an elementary school certificate, high school diploma, or college degree.*

- ○ No
- ○ Yes, public
- ○ Yes, parochial
- ○ Yes, other private

15 and 5 percent

21. What is the highest grade (or year) of regular school he has ever attended?
Fill one circle. If now attending, mark grade he is in.

- ○ Never attended school— *Skip to 23*
- ○ Nursery school
- ○ Kindergarten

Elementary through high school (grade or year)

1	2	3	4	5	6	7	8	9	10	11	12
○	○	○	○	○	○	○	○	○	○	○	○

College (academic year)

1	2	3	4	5	6 or more
○	○	○	○	○	○

22. Did he finish the highest grade (or year) he attended?

- ○ Now attending this grade (or year)
- ○ Finished this grade (or year)
- ○ Did not finish this grade (or year)

23. When was this person born?

- ○ Born before April 1956— *Please go on with questions 24 through 41.*
- ○ Born April 1956 or later— *Please omit questions 24 through 41 and go to the next page for the next person.*

5 percent

24. *If this person has ever been married—*

a. Has this person been married more than once?

- ○ Once
- ○ More than once

b. When did he get married?		When did he get married for the first time?	
Month	*Year*	*Month*	*Year*

c. *If married more than once—* **Did the first marriage end because of the death of the husband (or wife)?**

- ○ Yes
- ○ No

15 and 5 percent

25. *If this is a girl or a woman—*
How many babies has she ever had, not counting stillbirths?
Do not count her stepchildren or children she has adopted.

1	2	3	4	5	6	7	8	9	10	11	12 or more	None
○	○	○	○	○	○	○	○	○	○	○	○	○

15 percent

26. *If this is a man—*

a. Has he ever served in the Army, Navy, or other Armed Forces of the United States?

- ○ Yes
- ○ No

b. Was it during— *(Fill the circle for each period of service.)*

Vietnam Conflict *(Since Aug. 1964)*	○
Korean War *(June 1950 to Jan. 1955)*	○
World War II *(Sept. 1940 to July 1947)*	○
World War I *(April 1917 to Nov. 1918)*	○
Any other time	○

5 percent

27a. Has this person ever completed a vocational training program?
For example, in high school; as apprentice; in school of business, nursing, or trade; technical institute; or Armed Forces schools.

○ Yes ○ No — *Skip to 28*

b. What was his main field of vocational training? *Fill one circle.*

- ○ Business, office work
- ○ Nursing, other health fields
- ○ Trades and crafts *(mechanic, electrician, beautician, etc.)*
- ○ Engineering or science technician; draftsman
- ○ Agriculture or home economics
- ○ Other field— *Specify* →

28a. Does this person have a health or physical condition which limits the kind or amount of work he can do at a job?
If 65 years old or over, skip to question 29.

○ Yes
○ No

b. Does his health or physical condition keep him from holding any job at all?

○ Yes
○ No

c. *If "Yes" in a or b—* **How long has he been limited in his ability to work?**

- ○ Less than 5 months
- ○ 6 to 11 months
- ○ 1 to 2 years
- ○ 3 to 4 years
- ○ 5 to 9 years
- ○ 10 years or more

15 and 5 percent

QUESTIONS 29 THROUGH 41 ARE FOR ALL PERSONS BORN BEFORE APRIL 1936 INCLUDING HOUSEWIVES, STUDENTS, OR DISABLED PERSONS AS WELL AS PART-TIME OR FULL-TIME WORKERS

29a. Did this person work at any time last week?

○ Yes— *Fill this circle if this person did full- or part-time work. (Count part-time work such as a Saturday job, delivering papers, or helping without pay in a family business or farm; and active duty in the Armed Forces)*

○ No— *Fill this circle if this person did not work, or did only own housework, school work, or volunteer work.* *Skip to 30*

b. How many hours did he work last week (at all jobs)?
Subtract any time off and add overtime or extra hours worked.

- ○ 1 to 14 hours
- ○ 15 to 29 hours
- ○ 30 to 34 hours
- ○ 35 to 39 hours
- ○ 40 hours
- ○ 41 to 48 hours
- ○ 49 to 59 hours
- ○ 60 hours or more

15 percent

c. Where did he work last week?
If he worked in more than one place, print where he worked most last week.
If he travels about in his work or if the place does not have a numbered address, see instruction sheet.

(1) Address *(Number and street name)* _____

(2) Name of city, town, village, etc. _____

(3) Inside the limits of this city, town, village, etc.?
○ Yes
○ No

(4) County _____

(5) State (6) ZIP Code _____

d. How did he get to work last week? *Fill one circle for chief means used on the last day he worked at the address given in 29c.*

- ○ Driver, private auto
- ○ Passenger, private auto
- ○ Bus or streetcar
- ○ Subway or elevated
- ○ Railroad
- ○ Taxicab
- ○ Walked only
- ○ Worked at home
- ○ Other means— *Specify* →

After completing question 29d, skip to question 33.

15 and 5 percent

30. Does this person have a job or business from which he was temporarily absent or on layoff last week?

- ○ Yes, on layoff
- ○ Yes, on vacation, temporary illness, labor dispute, etc.
- ○ No

31a. Has he been looking for work during the past 4 weeks?

○ Yes ○ No— *Skip to 32*

b. Was there any reason why he could not take a job last week?

- ○ Yes, already has a job
- ○ Yes, because of this person's temporary illness
- ○ Yes, for other reasons (in school, etc.)
- ○ No, could have taken a job

32. When did he last work at all, even for a few days?

- ○ In 1970
- ○ In 1969
- ○ In 1968
- ○ 1964 to 1967
- ○ 1960 to 1963
- ○ 1959 or earlier
- ○ Never worked

Skip to 34

– continued –

15 and 5 percent

33–35. Current or most recent job activity

Describe clearly this person's chief job activity or business last week, if any. If he had more than one job, describe the one at which he worked the most hours.

If this person had no job or business last week, give information for last job or business since 1960.

33. Industry

a. For whom did he work? *If now on active duty in the Armed Forces, print "AF" and skip to question 36.*

(Name of company, business, organization, or other employer)

b. What kind of business or industry was this?
Describe activity at location where employed.

(For example: Junior high school, retail supermarket, dairy farm, TV and radio service, auto assembly plant, road construction)

c. Is this mainly— *(Fill one circle)*

- ○ Manufacturing
- ○ Wholesale trade
- ○ Retail trade
- ○ Other *(agriculture, construction, service, government, etc.)*

34. Occupation

a. What kind of work was he doing?

(For example: TV repairman, sewing machine operator, spray painter, civil engineer, farm operator, farm hand, junior high English teacher)

b. What were his most important activities or duties?

(For example: Types, keeps account books, files, sells cars, operates printing press, cleans buildings, finishes concrete)

c. What was his job title?

35. Was this person— *(Fill one circle)*

Employee of private company, business, or individual, for wages, salary, or commissions... ○

Federal government employee ..... ○

State government employee ..... ○

Local government employee *(city, county, etc.)*... ○

Self-employed in own business, professional practice, or farm—

- Own business not incorporated ..... ○
- Own business incorporated ..... ○

Working without pay in family business or farm ○

5 percent

36. In April 1965, what State did this person live in?

○ This State

OR

(Name of State or foreign country, or Puerto Rico, etc.)

15 and 5 percent

37. In April 1965, was this person— *(Fill three circles)*

a. Working at a job or business *(full or part-time)*?
○ Yes ○ No

b. In the Armed Forces?
○ Yes ○ No

c. Attending college?
○ Yes ○ No

5 percent

38. *If "Yes" for "Working at a job or business" in question 37—* **Describe this person's chief activity or business in April 1965.**

a. What kind of business or industry was this?

b. What kind of work was he doing (occupation)?

c. Was he—

An employee of a private company or government agency... ○

Self-employed or an unpaid family worker ..... ○

39a. Last year (1969), did this person work at all, even for a few days?
○ Yes ○ No— *Skip to 41*

b. How many weeks did he work in 1969, either full-time or part-time?
Count paid vacation, paid sick leave, and military service.

- ○ 13 weeks or less
- ○ 14 to 26 weeks
- ○ 27 to 39 weeks
- ○ 40 to 47 weeks
- ○ 48 to 49 weeks
- ○ 50 to 52 weeks

40. Earnings in 1969— *Fill parts a, b, and c for everyone who worked any time in 1969 even if he had no income.*
(If exact amount is not known, give best estimate.)

a. How much did this person earn in 1969 in wages, salary, commissions, bonuses, or tips from all jobs?
(Before deductions for taxes, bonds, dues, or other items.)
$ _____.00 *(Dollars only)*
OR ○ None

b. How much did he earn in 1969 from his own nonfarm business, professional practice, or partnership?
(Net after business expenses. If business lost money, write "Loss" above amount.)
$ _____.00 *(Dollars only)*
OR ○ None

15 and 5 percent

c. How much did he earn in 1969 from his own farm?
(Net after operating expenses. Include earnings as a tenant farmer or sharecropper. If farm lost money, write "Loss" above amount.)
$ _____.00 *(Dollars only)*
OR ○ None

41. Income other than earnings in 1969— *Fill parts a, b, and c.*
(If exact amount is not known, give best estimate.)

a. How much did this person receive in 1969 from Social Security or Railroad Retirement?
$ _____.00 *(Dollars only)*
OR ○ None

b. How much did he receive in 1969 from public assistance or welfare payments?
Include aid for dependent children, old age assistance, general assistance, aid to the blind or totally disabled. Exclude separate payments for hospital or other medical care.
$ _____.00 *(Dollars only)*
OR ○ None

c. How much did he receive in 1969 from all other sources?
Include interest, dividends, veterans' payments, pensions, and other regular payments. (See instruction sheet.)
$ _____.00 *(Dollars only)*
OR ○ None

CHAPTER 3

GEOGRAPHIC CONCEPTS

Census data are defined not only in terms of subject matter, but also in terms of geographic location. The 1970 census provides data for more types of geographic areas than any other major data base. Many of these types of areas are familiar: States, counties, cities, etc. These are governmental or political units. To serve additional purposes, census data are also provided for other areal units defined for statistical purposes: census regions, standard metropolitan statistical areas, census tracts, etc.

Certain principles relative to geographic areas are worthy of note, but are also covered in later sections:

- Generally speaking, the larger the area the greater the number and detail of data tables published.
- Especially for small areas, more data are available on tape than appear in print.
- The smaller the geographic area, the more likely it is that data will have been suppressed to prevent disclosing personal information about individuals.
- Data for small areas are more subject to certain kinds of error than are data for large areas.
- Boundary changes from one census to another should be accounted for whenever historical comparisons are made.

Figure 4.3 in the next chapter shows which geographic areas are summarized in the various 1970 census publications and computer tapes.

Section I: GEOGRAPHIC DEFINITIONS AND USER NOTES

Definitions of geographic terms are presented in the following sources:

- "Census User's Dictionary" (pages 75-90 in the 1970 Census Users' Guide, Part I)
- Appendix A or the introductory material of reports (definitions are shown only for the types of areas in the report)
- Data Access Description No. 33, Appendix A (contains the essential elements of definitions; but does not include definitions for urban/rural populations, regions, or divisions)

The following are user notes on each type of area and are not the formal definitions which are available in the other sources.

Maps are essential to the definition of geographic areas. References are included below to the sources of appropriate maps. Each of the series mentioned is described more fully in pages 2-3 of Data Access Description No. 33. (references to prices contained in DAD No. 33 are out of date and should be increased by 50 percent.)

A. Governmental or Political Units (and closely related statistical units)

1. United States - This designation includes the 50 States and the District of Columbia. (Certain data are also reported for Puerto Rico, Virgin Islands, Canal Zone, American Samoa, and Guam in separate reports.)

2. States - The major political units of the United States. In all census reports the District of Columbia gets the same treatment as a State.

3. Congressional Districts - Areas defined by State legislatures for the purpose of electing congresspersons to the U.S. House of Representatives. These may change after each decennial census. Maps are shown in the Congressional District Data Book (see page 120).

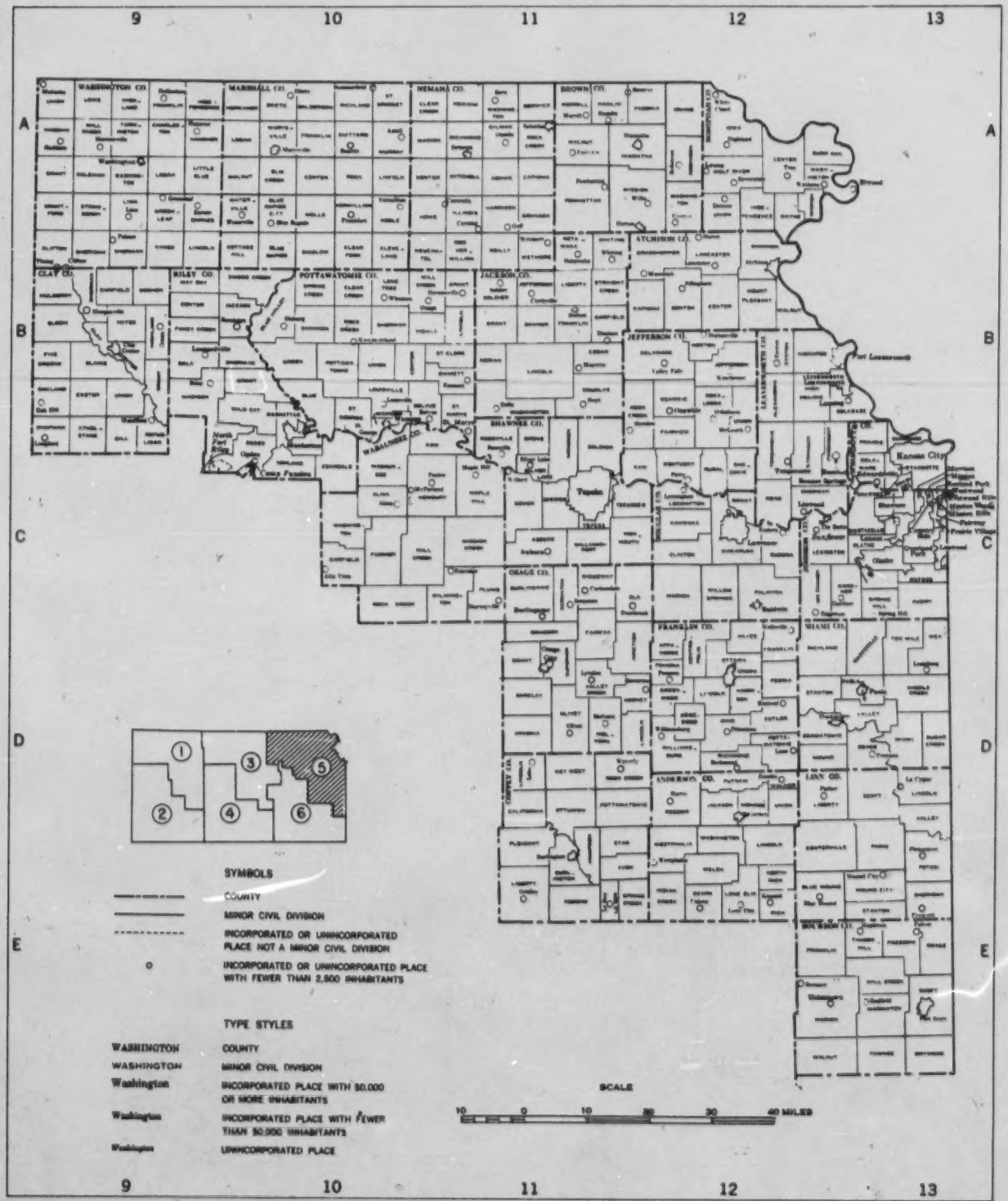
4. Counties - Counties are the primary political or administrative divisions of States, except in Louisiana where such divisions are called "parishes," and in Alaska where 29 census divisions have been recently established as county equivalents. A number of cities (e.g., Baltimore, St. Louis, and many Virginia cities) are independent of any county organization and in census reports appear as both county equivalents and cities.

5. County Subdivisions - Almost all counties are subdivided into smaller areas called minor civil divisions (MCD's) or census county divisions (CCD's). MCD and CCD outlines are shown at small scale in PC(1)-A reports, (Report series and their initials are discussed in Chapter 4) as illustrated in figure 3.1.

   a. MCD - A minor civil division is an administrative or political subdivision of a county. The most common type of MCD is a township. Towns in New England, New York, and Wisconsin are also MCD's. In a few States, boroughs, gores, and election precincts are treated as MCD's.

   b. CCD - A census county division is a statistically defined substitute for MCD's in those 21 States having minor civil divisions which are not appropriate for the publication of statistics because of frequently changing boundaries, inappropriate size, etc. In 1960, these States were Alabama, Arizona, California, Colorado, Florida, Georgia, Hawaii, Idaho, Kentucky, Montana, New Mexico, Oregon, South Carolina, Tennessee, Texas, Utah, Washington, and Wyoming; in 1970, Delaware, North Dakota, and Oklahoma were added to the States having CCD's defined.

Figure 3.1 County Subdivision (MCD/CCD) Map From PC(1)-A



6. Places - A place is a population concentration. Most frequently this involves cities and other legally incorporated units, but may also include concentrations without legal status. Most places are smaller than counties.

   a. Incorporated Places - Incorporated places are political units incorporated as cities, towns, villages, or boroughs regardless of size (exceptions: towns in New England, New York and Wisconsin and boroughs in Alaska are considered MCD's). Most incorporated places are subdivisions of MCD's or CCD's, though some are coextensive with MCD's and CCD's and others cross MCD and even county lines.

   b. Unincorporated Places - Unincorporated places are densely settled population centers which are not legally incorporated. Each has a definite residential nucleus, and boundaries are drawn by the Census Bureau to include, insofar as possible, all the closely settled area. For unincorporated places of 1,000 or more population (5,000 or more inside urbanized areas) the same data are shown as for incorporated places.

B. Statistical Areas

1. Census Regions - (see figure 3.2) - There are four regions, each composed of two or three divisions:

   - West: Pacific and Mountain Divisions
   - South: South Atlantic, East South Central, and West South Central Division
   - North Central: West North Central and East North Central Divisions
   - Northeast: Middle Atlantic and New England Divisions

   Data are presented in 1970 census U.S. summary reports and selected subject reports, and in selected reports published from the Current Population Survey.

   Census regions have been in use since 1910 and should not be confused with the ten Federal administrative regions.

2. Divisions (See figure 3.2) - Census geographic divisions are areas composed of groupings of contiguous States; there are nine divisions and summary statistics have been presented for these largely unchanged areas since 1910. Data are presented only in U.S. summary reports and in selected subject reports.

3. Standard Metropolitan Statistical Areas (See figure 3.3) - A standard metropolitan statistical area (SMSA) was defined in 1970 as one or more contiguous counties (towns in New England) having at least one city with a population of 50,000 or more. The definition also applied whenever two contiguous cities had a population of 50,000 or more, if the smaller of the two cities had at least 15,000 popu-

Figure 3.2 Census Regions and Geographic Divisions of the United States

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

21

lation. The adjacent counties are metropolitan in character and socially and economically integrated with the central city. The name of the central city or cities is used as the name of the SMSA. SMSA's may cross State lines.

SMSA's are especially important because many Federal programs are tied to them, and many more statistical series are available from other Federal agencies for SMSA's than for cities. (By comparison no other Federal agency collects data for urbanized areas, defined below.)

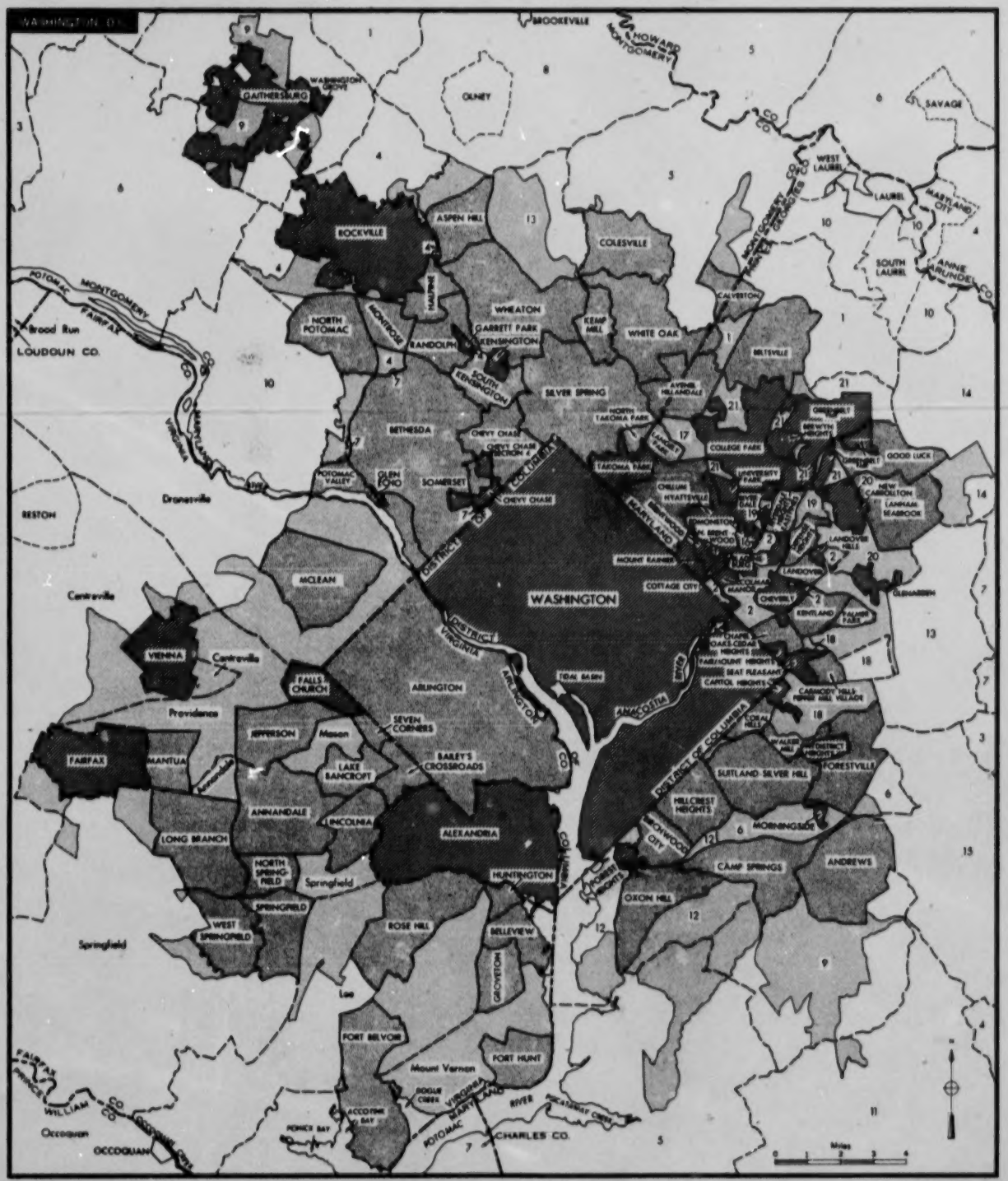
Some data series present statistics for metropolitan and nonmetropolitan populations; "metropolitan" refers to persons residing in SMSA's and "nonmetropolitan" refers to persons not residing in SMSA's, even though they may live in a city. The metropolitan population is subdivided as "inside central city(s)" and "outside central city." The part of an SMSA outside the central city may also be termed the "ring of SMSA." (Since the 1970 census, a new definition of SMSA's has been established. The new areas and title changes reflect the application of revised criteria for defining SMSA's. Basically, the revised criteria state that each SMSA must include at least (1) one city with 50,000 or more inhabitants, or (2) a city with at least 25,000 inhabitants which, taken together with contiguous places having a population density of at least 1,000 persons per square mile, constitutes (for general economic and social purposes) a single community with a total population of at least 50,000. In addition under criterion (2) the county or counties in which the places are located must have at least 75,000 inhabitants. A list of SMSA's, current as of 1975, and details of the criteria are found in Standard Metropolitan Statistical Areas: 1975.)

4. Standard Consolidated Areas (SCA's) - In the 1970 census there were two SCA's: the New York-Northeastern New Jersey SCA, and the Chicago-Northwestern Indiana SCA. These are metropolitan complexes around the nations's two largest cities, New York and Chicago, and consist of two or more contiguous SMSA's and additional counties with strong interrelationships. (More recently the SCA concept has broadened and 13 areas have now been defined as Standard Consolidated Statistical Areas (SCSA's) under new criteria. See Data User News, November 1975 or Standard Metropolitan Statistical Areas: 1975.)

5. Urbanized Areas (UA's) - Within each SMSA an urbanized area is defined to provide a rough distinction between the urban and the more rural population in vicinities of major cities. The boundaries are determined by the pattern of urban land use rather than legal boundaries. An urbanized area consists of a central city (or twin cities) of 50,000 or more population plus the surrounding urban fringe that is closely settled, including incorporated and unincorporated areas which meet certain criteria of population size or density. The UA corresponds roughly to what is often thought of as a city and its suburbs. The urbanized area is the thickly settled core of the

Figure 3.3 **SMSA's Defined for the 1970 Census**

Figure 3.4 Urbanized Area Map From a PC(1)-A or HC(1)-A Report



COMPONENTS OF URBANIZED AREA
- Incorporated Places
- Unincorporated Places
- Unincorporated Area

BOUNDARY SYMBOLS
- State
- County
- Minor Civil Division
- Incorporated Place
- Unincorporated Place Outside Urbanized Area

Metropolitan Map Series showing boundaries in detail are available at cost on request to the Bureau of the Census

metropolitan area (although in a few cases a UA extends beyond the SMSA boundary). As this is a definition based on the precise population distribution at the time of the census, the boundaries are not permanent. Generally there is only one urbanized area in an SMSA but it is possible for there to be more than one.

The only source of maps defining urbanized areas is at the end of PC(1)-A or HC(1)-A reports for States. Figure 3.4 shows one of those maps for a large urbanized area. Note that an urbanized area may include incorporated places, unincorporated places and additional unincorporated areas meeting certain density criteria. The top part of figure 3.5 illustrates a PC(1)-A map of a much smaller urbanized area. Metropolitan Maps in HC(3) reports generally cover an area slightly larger than the UA, but the UA boundary is not marked.

(Twenty-seven new urbanized areas have been defined for SMSA's created under new post-1970 criteria in a supplementary report PC(S1)-106. Of course these urbanized areas are not recognized in other 1970 census reports.)

6. Urban and rural area - The urban population comprises all persons living in urbanized areas and in places of 2,500 or more outside urbanized areas. The rural population comprises all population which is not urban. In 1950 the definition of urban population was revised, (urbanized areas had not existed previously) and that may affect historical studies. Urban and rural populations are found in both metropolitan and nonmetropolitan areas; these concepts are sometimes confused and mistakenly used interchangeably.

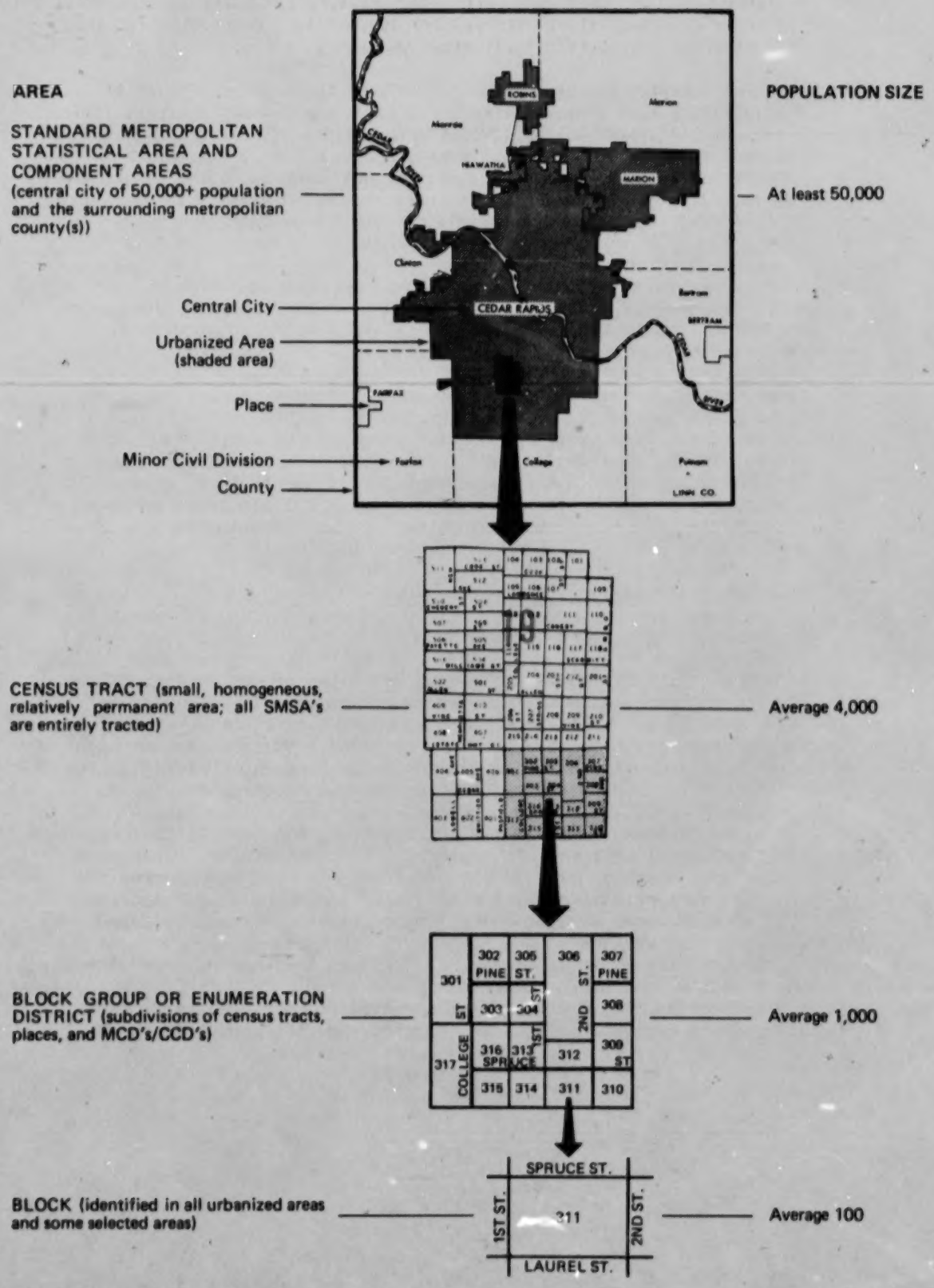
7. Unincorporated Places (See page 20.)

8. Census County Divisions (See page 18.)

9. Census Tracts - Census tracts are subdivisions of metropolitan areas into neighborhood-like units. Tracts are relatively stable areas defined by local committees and approved by the Census Bureau. They average about 4,000 people and were originally designed to represent areas or neighborhoods having similar socio-economic characteristics, although many have become quite heterogeneous. Census tracts are sometimes subdivided between censuses to create smaller tracts and occasionally other boundary changes are made, but most tracts stay identical from one census to another. The relationship of census tracts to other units is illustrated in figure 3.5. Some nonmetropolitan counties also have tracts (listed in Census Tract Memorandum 17) when designated by an authorized committee in the local area.

Census tracts are widely used since they are the smallest area for which sample data are published in metropolitan areas (PHC(1) reports), and because such a wealth of data are available at the tract level in census summary tapes (Second, Fourth, and Fifth Counts).

Figure 3.5 Geographic Subdivisions of an SMSA



NOTE: This figure appears as figure 3 in the Student Workbook.

Census tract outline maps are included in the PHC(1) reports. More detailed representation of tract boundaries is included in the Metropolitan Map Series and in unpublished enumeration district (ED) maps in areas not covered by Metropolitan Maps. Both tract outline maps and Metropolitan Maps are illustrated in figure 3.6.

10. Central Business Districts (CBD's) - The CBD is an area of high land valuation, a high concentration of retail businesses, offices, theaters, hotels, and "service" businesses, and high traffic flow. It is defined in terms of one or more whole tracts. CBD's were not summarized as such in the 1970 census, but the tracts comprising the CBD are listed on page VI of the introduction to census tract reports, so that data for the CBD may be aggregated.

11. Enumeration Districts (ED's) and Block Groups (BG's) - Enumeration districts are areas assigned to census takers or enumerators for collecting questionnaires. Block groups are arbitrary subdivisions of census tracts in areas where there are no ED's. Together they serve as the smallest geographic units whichcover the entire country, and for which both complete count and sample data can be obtained. Even though ED's and BG's were not designed primarily as areas for statistical analysis, they are frequently used in combination to approximate areas of user interest, such as school districts, watersheds, traffic zones, or other areas which cannot easily be defined in terms of census tracts or county subdivisions. ED and BG data do not appear in print, only on tape (1st and 5th Counts) and, to a certain extent, on microfilm.

    a. Enumeration Districts - ED's are defined according to two administrative factors: (1) the population size of the ED should represent a reasonable workload for an enumerator (usually about 250 households or 800 persons); and (2) the ED must fall within the boundaries of all areas for which results are tabulated (tracts, MCD's, cities, and wards). Since ED's are areas of administrative convenience, boundaries do not stay the same from census to census. An ED is identified by a number up to four-digits long which is unique within county. ED's are defined in Metropolitan Maps (HC(3) reports) and in unpublished county and place maps in areas not covered by Metropolitan Maps, as discussed in DAD No. 33.

    b. Block Groups - BG's are subdivisions of census tracts in roughly the postal city delivery area of the 145 SMSA's that were covered by the mail out/mail back system in 1970. In these areas the conventional concept of enumeration district does not apply. BG's averaged about 1000 population in 1970. While block groups are subdivisions of tracts they may cross city, ward, or MCD boundaries.

    Block groups are not separately outlined on the Metropolitan Map Series but are identified only by noting blocks within a tract numbered in the same hundreds series(e.g., 501, 502, 503, etc.). See figure 3.6. Block groups do not exist wherever ED boundaries and numbers are shown on the maps, even though block numbering continues.

12. Block - The smallest area for which 1970 census data are available is the city block. Blocks are usually well-defined pieces of land

Figure 3.6(a) **Segment of a Census Tract Outline Map From a PHC(1) Report**

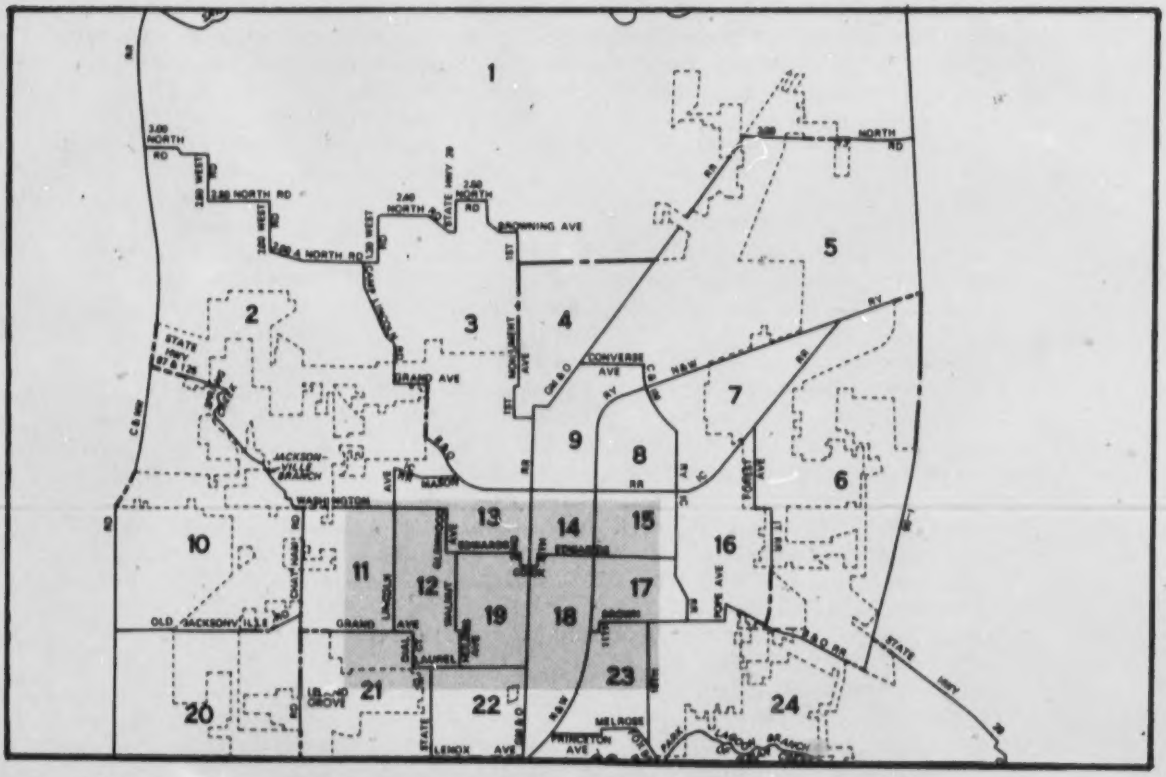
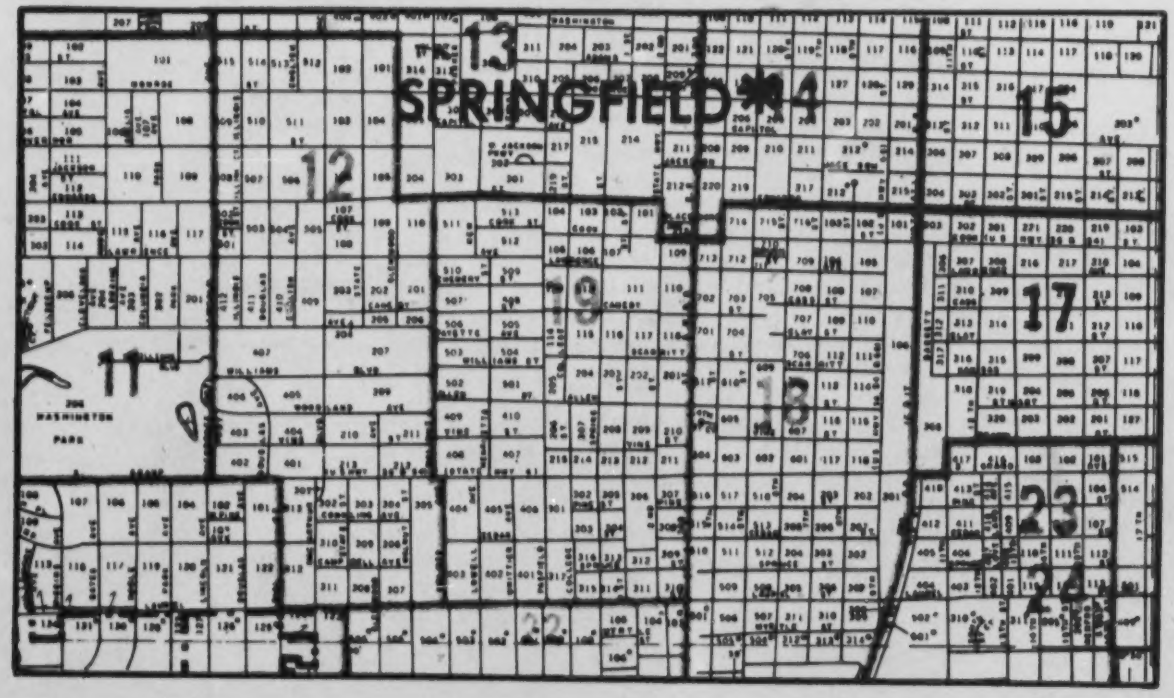


Figure 3.6(b) **Segment of a Census Metropolitan Map From an HC(3) Report**

(Corresponds to shaded area above)



bounded by streets or roads. A typical block is rectangular and bounded by four streets; however, blocks may be irregular in shape and may be partially bounded by railroad tracks, streams, or similar identifiable features. Blocks do not cross census tract boundaries, but may cross other boundaries such as city limits. The term, as used by the Census Bureau, does not mean a single side or portion of a street.

Block statistics are available in printed reports and on the computer summary tapes for all urbanized areas within the SMSA's that were determined before the 1970 census. They are also available for other areas which contracted with the Census Bureau for block statistics. (Specific contract block areas are listed in Data Access Description No. 15.) Each block has a three-digit numeric identification number and these numbers are unique within each census tract. (See figure 3.6.) (Coding errors affecting block statistics are discussed on page 44.)

Tabulations of data for blocks are published in the 1970 Census of Housing series, Block Statistics HC(3), and are on the Third Count summary tapes. Only 100-percent population and housing data are available by block. Blocks are defined in Metropolitan Map Series maps or contract block maps in HC(3) reports.

C. Other Geographic Areas

1. ZIP Code Areas - A new type of area for which 1970 census data are summarized is ZIP code areas. Fifth Count summary tapes are the only source for population and housing data by ZIP code (see Data Access Description No. 36 for a detailed discussion of these data). ZIP code data are used extensively by marketers and others whose mailing lists are ordered by ZIP code. While ease of coding one's own address files is an important advantage, users should consider several important disadvantages of using ZIP code areas for statistical purposes:

   - The areas were not designed with statistical use in mind - they are heterogeneous, the boundaries change over time, and maps are not readily available except in the Yellow Pages of phone books for major cities;
   - Nationwide, ZIP data are available only for 3-digit ZIP codes (i.e., all ZIPs with the same first 3 digits treated as a unit.) - 5-digit ZIP area data are provided only within SMSA's; and
   - ZIP codes may cross State, county, SMSA and city boundaries.

2. Examples of Areas not in Census Reports - Some types of areas of local interest are not summarized in census reports or tapes. These include police precincts, election precincts, school districts, traffic zones, political wards, and so forth. In many cases it is possible to define or approximate these areas with groups of census blocks, enumeration districts or tracts and obtain data by aggregation from those units. It is also possible to obtain special tabulations on a cost-reimbursable basis (discussed on page 67) for such areas. In

fact special tabulations are already available for school districts, and traffic zones in many areas. One supplementary report (PC(S1)-9) gives population counts for wards in cities of 10,000 or more inhabitants.

Section II: HIERARCHICAL RELATIONSHIPS AMONG GEOGRAPHIC UNITS

There are hierarchical relationships among the geographic units used by the Census Bureau. Some of these relationships are demonstrated in figures 3.5 and 3.7 (also shown as figures 2 and 3 in the Student Workbook). As they indicate, governmental units and statistical units intermingle - e.g., States are grouped to define the statistical divisions and regions; political jurisdictions such as counties are subdivided into statistical units called enumeration districts and block groups. Metropolitan counties are the basic building blocks for Standard Metropolitan Statistical Areas. As figure 3.7 also demonstrates, both urban and rural populations may live in SMSA's as well as nonmetropolitan counties, demonstrating that metropolitan/nonmetropolitan and urban/rural are not interchangeable concepts.

Note that part B of figure 3.7 is accurate only for SMSA's outside New England. For New England "metropolitan minor civil divisions" should replace "metropolitan counties."

A few of the more complex relationships are worth stating explicitly. Outside of urbanized areas, the enumeration district is the basic building block. No place, MCD, CCD, tract, or county ever crosses an ED boundary, and each could be defined as an aggregation of ED's. Urban and rural areas are generally made up of whole ED's except for relatively rare "mixed ED's" on the edges of some urbanized areas.

Where ED's occur inside urbanized areas, the same relationships hold except that blocks are available as a smaller unit for analysis.

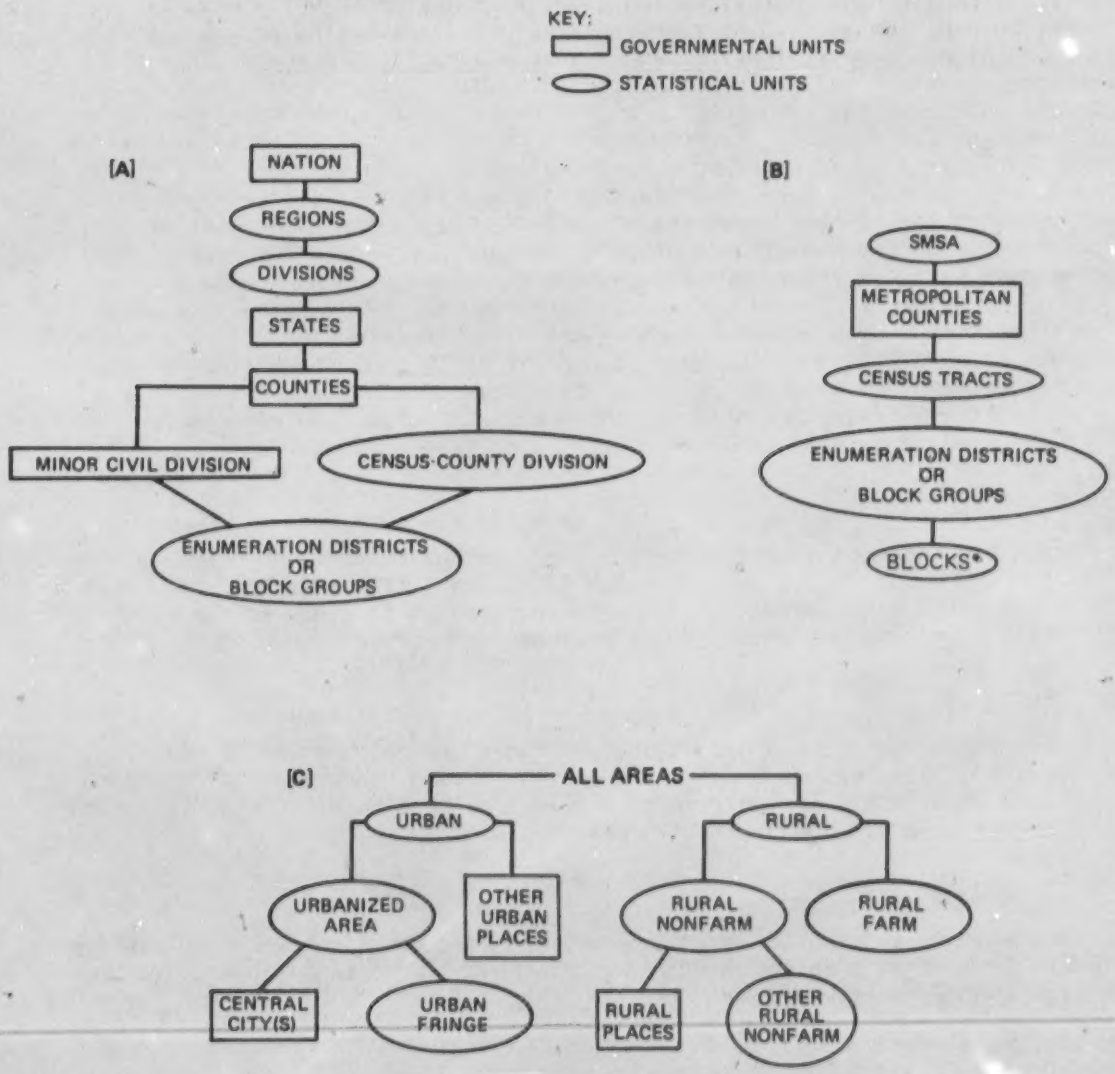
Blocks are bounded by physical features and disregard lines of political jurisdiction where they are not readily visible. Thus blocks can cross place, MCD, ward, and ED boundaries, but not tract boundaries. Similarly, where block groups replace ED's, they do not observe place, ward or MCD lines, but of course block groups are necessarily subdivisions of tracts.

Census tracts frequently do not obey place boundaries, especially where place boundaries are subject to change through annexations.

Urbanized areas are generally smaller than the SMSA's of the same name, since they exclude all rural area and those urban places not contiguous to or integrated with the urbanized area. Some urbanized areas do have minor segments extending beyond the SMSA limits, and the New York-Northern New Jersey and the Chicago-Northeastern Indiana urbanized areas treat as a whole the urbanized area in two or more integrated SMSA's. Only in the case of "extended cities" do urbanized areas cross place boundaries, by excluding the rural area in the place.

Figure 3.7 Census Bureau Geographic Units--Their Hierarchical Relationships

These figures illustrate hierarchical or "nesting" relationships among census geographic areas. Note that the hierarchies overlap, e.g., counties are subdivided into MCD's or CCD's (figure A), into urban and rural components (figure C), and, inside SMSA's, into census tracts (figure B). Note also the relationships among governmental and statistical units as data summary areas.



*Blocks do not cover the entire SMSA, only the urbanized part.

NOTE: This figure appears as figure 2 in the Student Workbook.

Section III: HISTORICAL COMPARISON NOTES FOR GEOGRAPHIC AREA DEFINITIONS

A. Incorporated Places

Cities in many States annex territory from time to time. Fully two-thirds of all incorporated places changed boundaries between 1960 and 1970. Annexed areas were generally identified in separate ED's in the 1970 census. Table 8 of PC(1)-A separately summarizes the 1970 population in the 1960 area and in the annexed area of places of 2,000 or more population. The Census Bureau maintains continuous monitoring of boundary change of cities through its Boundary and Annexation Survey. (Series GE-30).

B. SMSA's

SMSA data have been reported in the 1950 and 1960 as well as 1970 censuses. Since SMSA's outside of New England are defined in terms of whole counties, it is normally possible to reconstruct census data for an SMSA according to any time period. Changes to established SMSA's have occurred primarily 2 to 3 years after the 1960 and 1970 censuses as additions were made based on commuting data from the censuses. Thus a large number of SMSA's now have definitions different from those given in the 1970 census. New SMSA's are added from time to time, a number as a result of liberalization of certain central city size requirements, as discussed on page 22.

C. Urbanized Areas

Criteria for urbanized area definition remained fairly consistent between 1960 and 1970. By nature urbanized areas are likely to change from decade to decade. Since population density for very small areas is one of the criteria, urbanized areas cannot be redefined between censuses.

D. Census Tracts

Changes between 1960 and 1970 census tracts are noted in tract comparability tables following the introduction in each tract report. The 1960 tract reports are the only consistent source of 1960 tract maps for precise comparison of changes with 1970 tract maps.

E. Enumeration Districts

There is no systematic continuity between 1970 census enumeration districts and those from prior censuses. Certain unpublished tables are available for 1960 ED's (see DAD No. 35).

F. Blocks

Block statistics for places of 50,000 or more were published in 1940, 1950, and 1960. Extension of the block statistics to cover the urban fringe outside of those cities was a major innovation for 1970. The tract number is an essential part of the block identification. The system for block numbering within tract is completely different for 1970. Block numbering for 1940 to 1960 was relatively consistent.

Note on Jargon - "Small Area Data"

The concept of small area data appears frequently in literature about the 1970 census. Unfortunately, the term is not consistently applied and its meaning is derived from the context. Most users think of small area data as including data about census tracts, block groups, enumeration districts, blocks, and possibly ZIP code areas and county subdivisions. Other references, however, extend the concept to cover SMSA's, counties, and cities.

CHAPTER 4

PRINTED REPORTS OF DATA FROM THE 1970 CENSUS OF POPULATION AND HOUSING

Section I: BASIC CONCEPTS

A. Media

Data are published from the 1970 census in several different ways. The primary medium of publication is the printed statistical report, but data are also made available in the form of computer tape, microfiche and microfilm, and, to a lesser extent, data maps and narrative reports.

Printed reports present a selection of tabulations considered to be of the broadest general interest. What appears in print is, however, merely a subset of the data available in computerized form on tape.

B. Components of a Statistical Table

Almost all of the data appearing in statistical reports are presented in the form of tables, such as is illustrated in figure 4.1. Learning how to read them properly is an important skill.

The table, as a logical unit, shows a specific set of data for a specified set of geographic areas. In figure 4.1 the rows are defined by subject matter and the columns are for different geographic areas. The descriptive labels on the left-hand side defining each row are termed the stub of the table, and the descriptive labels over the columns are termed its header. A single number in the matrix is referred to as a data item or data cell.

Notice in the table that some data cells contain a dash "-" or three dots "...". The dash represents zero. The dots indicate that those derived statistics (percents in this case) are based on numbers too small to be reliable. Dots are also used to replace data which have been withheld (suppressed) to avoid disclosure about particular people. Suppression occurs primarily where the number of persons or housing units is very small, and is further discussed in Chapter 7 (page 92).

In figure 4.1 data are presented in several distinct units, each with its own subject matter variables. Notice that the categories of the variable employment status are repeated for both categories of the variable sex. We say that these two variables are cross-classified or cross-tabulated by one another. Saying "employment status by sex" is a shorthand way to indicate a cross-tabulation.

C. Care Required in Reading Tables

It is important to read headings and stubs carefully. An entire table

Figure 4.1 Sample Table From "General Social and Economic Characteristics" (PC(1)-C)

Table 117. Social and Labor Force Characteristics for Places of 2,500 to 10,000: 1970—Continued

(Data based on sample, see text. For minimum base for derived figures (percent, median, etc.) and meaning of symbols, see text)

Places	Calverton (U)	Capitol Heights	Carmody Hills-Pepper Mill Village (U)	Chapel Oaks-Cedar Heights (U)	Chester-town	Cheverly	Colesville (U)	Columbia (U)	Carol Hills (U)	Crisfield	Crofton (U)
PLACE OF BIRTH											
Total population	**6 535**	**3 713**	**6 395**	**6 090**	**3 476**	**6 665**	**9 438**	**8 701**	**7 233**	**3 975**	**4 484**
Foreign born	**346**	**62**	**15**	**9**	**36**	**307**	**488**	**230**	**143**	**-**	**136**
Native	**6 189**	**3 651**	**6 380**	**6 011**	**3 440**	**6 358**	**9 030**	**8 451**	**7 109**	**3 975**	**4 348**
Born in State of residence	2 220	816	1 908	1 780	2 147	1 990	2 615	2 963	2 024	2 579	1 031
Born in different State	3 777	1 545	3 494	2 788	1 099	4 035	6 069	5 106	4 159	385	3 085
Northeast	1 021	135	184	184	575	1 051	1 892	2 200	455	121	1 331
North Central	483	90	51	138	104	497	957	995	215	8	557
South	2 147	1 309	3 165	2 440	391	2 381	2 893	1 704	3 421	242	1 029
West	126	11	94	26	29	106	327	207	68	14	168
Born abroad, at sea, etc.	51	18	40	29	10	65	113	144	58	10	97
State of birth not reported	141	272	838	1 414	184	266	233	238	868	101	145
RESIDENCE IN 1965											
Total population, 5 years old and over	**5 682**	**2 499**	**5 471**	**5 412**	**3 272**	**6 196**	**8 572**	**7 462**	**6 488**	**2 904**	**3 950**
Same house	1 777	1 287	1 012	3 131	1 499	3 932	2 990	647	2 177	1 543	281
Different house in United States	3 675	960	2 940	1 623	1 583	1 866	4 900	6 077	2 958	1 234	3 502
Same county	1 440	372	676	376	528	1 107	1 930	287	561	993	390
Different county	2 235	588	2 264	1 247	1 055	759	2 970	5 790	2 397	241	3 112
Same State	1 296	12	131	39	439	128	932	2 658	119	176	1 135
Different State	939	576	2 133	1 208	616	631	2 038	3 132	2 278	65	1 977
Northeast	219	10	64	67	309	126	647	1 283	77	10	705
North Central	49	-	-	64	86	47	205	721	57	-	234
South	589	566	2 022	957	152	374	1 041	974	2 071	55	944
West	82	-	47	100	69	84	145	154	73	-	94
Abroad	108	94	129	14	7	113	280	271	11	13	70
Moved, 1965 residence not reported	122	158	1 390	644	183	285	402	467	1 262	114	97
SCHOOL ENROLLMENT											
Percent enrolled, 3 to 34 years old	**61.5**	**61.8**	**51.9**	**48.2**	**61.0**	**60.5**	**73.0**	**53.7**	**50.1**	**60.4**	**60.5**
3 and 4 years old	35.0	-	17.5	13.5	-	17.9	48.7	39.4	16.6	...	34.0
5 and 6 years old	93.0	68.2	78.5	79.8	...	97.2	99.9	87.8	71.3	84.8	90.9
7 to 13 years old	99.1	99.9	93.7	93.7	96.0	99.4	97.3	99.9	96.6	99.9	96.1
14 and 15 years old	96.8	99.9	86.4	95.0	...	89.2	96.8	98.8	84.0	82.9	99.9
16 and 17 years old	99.9	...	93.7	94.0	...	91.8	96.4	99.9	93.8	99.9	88.5
18 and 19 years old	87.5	...	78.5	48.9	90.1	68.6	71.9	79.0	60.5	...	...
20 and 21 years old	63.0	...	29.7	6.6	69.7	44.7	87.7	38.8	26.7	-	...
22 to 24 years old	17.2	...	3.1	1.0	33.9	13.5	28.7	19.5	11.1	...	...
25 to 34 years old	12.1	2.6	5.3	5.4	4.8	8.9	10.3	8.9	8.2	-	7.9
YEARS OF SCHOOL COMPLETED											
Total persons, 25 years old and over	**3 274**	**1 357**	**2 658**	**3 196**	**1 746**	**3 618**	**4 685**	**4 969**	**3 637**	**1 884**	**2 393**
No school years completed	10	16	18	38	8	-	58	-	37	35	-
Elementary: 1 to 4 years	10	67	54	166	92	39	31	-	89	157	13
5 to 7 years	59	212	200	409	262	141	112	40	363	486	35
8 years	58	164	170	244	120	173	111	73	335	181	31
High school: 1 to 3 years	341	382	699	820	442	523	328	236	957	642	81
4 years	1 287	425	852	955	304	1 337	1 297	912	1 200	216	543
College: 1 to 3 years	542	51	299	218	257	664	946	838	372	119	567
4 years or more	967	40	366	256	261	741	1 802	2 170	284	48	1 123
Median school years completed	12.9	10.7	12.2	11.5	11.7	12.7	14.3	16.0	12.0	9.4	15.6
EMPLOYMENT STATUS											
Male, 16 years old and over	**1 912**	**787**	**1 596**	**1 946**	**1 275**	**2 353**	**2 737**	**2 515**	**2 187**	**960**	**1 346**
Labor force	1 647	654	1 380	1 553	868	1 855	2 369	2 327	1 853	731	1 173
Percent of total	86.1	83.1	86.5	79.8	68.1	82.3	86.6	92.5	84.7	76.1	87.1
Civilian labor force	1 643	639	1 318	1 525	854	1 840	2 339	2 283	1 779	720	1 150
Employed	1 640	626	1 318	1 467	828	1 810	2 277	2 257	1 750	627	1 133
Unemployed	3	13	-	58	26	30	62	26	29	93	17
Percent of civilian labor force	0.2	2.0	-	3.8	3.0	1.6	2.7	1.1	1.6	12.9	1.5
Not in labor force	265	133	216	393	407	398	368	188	334	229	173
Under 65 years	239	76	199	290	300	286	289	138	216	96	159
65 years and over	26	57	17	103	107	110	79	50	118	133	14
Female, 16 years old and over	**1 985**	**879**	**1 872**	**2 143**	**1 485**	**2 493**	**2 938**	**2 685**	**2 460**	**1 235**	**1 446**
Labor force	809	426	1 145	1 306	716	1 233	1 152	1 112	1 386	585	553
Percent of total	40.8	48.5	61.2	60.9	48.2	49.5	38.9	41.4	56.3	47.4	38.2
Civilian labor force	809	426	1 145	1 306	716	1 233	1 152	1 112	1 381	585	553
Employed	795	413	1 104	1 178	620	1 183	1 107	1 076	1 323	469	545
Unemployed	14	13	41	128	96	50	45	36	58	116	8
Percent of civilian labor force	1.7	3.1	3.6	9.8	13.4	4.1	3.9	3.2	4.2	19.8	1.4
Not in labor force	1 176	453	727	837	769	1 259	1 806	1 573	1 074	650	893
Under 65 years	1 098	344	692	687	518	1 077	1 630	1 452	905	372	850
65 years and over	78	109	35	150	251	182	176	121	169	278	43
Male, 16 to 21 years old	**355**	**184**	**260**	**383**	**373**	**392**	**436**	**338**	**307**	**98**	**156**
Not enrolled in school	36	40	54	103	50	92	39	42	109	20	22
Not high school graduate	7	20	29	37	11	30	17	9	49	16	4
Unemployed or not in labor force	-	12	9	13	-	5	10	-	12	-	-
INDUSTRY											
Total employed, 16 years old and over	**2 435**	**1 039**	**2 422**	**2 645**	**1 448**	**2 992**	**3 384**	**3 333**	**3 073**	**1 096**	**1 678**
Construction	125	103	102	175	68	169	133	299	255	84	47
Manufacturing	197	73	95	97	205	246	271	382	222	254	223
Durable goods	88	30	31	44	58	86	151	260	73	130	160
Transportation	23	36	79	82	22	101	9	60	106	25	32
Communications, utilities, & sanitary services	129	59	174	210	65	98	66	51	172	31	37
Wholesale and retail trade	372	241	360	507	288	579	510	333	607	323	190
Finance, insurance, business & repair services	309	93	151	135	100	215	446	543	238	48	184
Professional and related services	433	135	703	574	473	713	842	1 042	598	177	459
Educational services	198	39	290	237	321	328	343	568	250	100	259
Public administration	761	203	600	621	60	783	926	614	662	65	454
Other industries	86	96	158	244	167	89	181	99	213	89	52

NOTE: Part of this table appears as figure 4 in the Student Workbook.

MARYLAND

might be restricted to the Negro population and the only notation be in the title. One should watch for indentations in stubs, which generally indicate a subdivision within a primary category, or, if bold, a major heading. Near the top of figure 4.1 note that the four regions add up to "Born in different State" and that the four categories at the left margin add up, not to the total population, but to Native.

D. Preliminary and Advance Reports

All of the reports described in Section II are "final" reports, but the first results that come out of a census may be designated "preliminary" or "advance." Preliminary reports provide data which are subject to change. Advance reports provide final data but merely in an abbreviated form which can be published more quickly than the lengthier final reports. Preliminary or advance reports generally have little or no explanatory text.

Section II: 1970 CENSUS REPORT SERIES

A. Overview of Report Series (refer to figure 4.2)

Report series in the 1970 census are designated as population characteristics reports ("PC"), housing characteristics reports ("HC"), and joint population and housing reports ("PHC"). These are further divided into several types:

1. "Volume I" - PC(1) and HC(1) reports are issued by States and a U.S. summary, providing the basic data for States, SMSA's, urbanized areas, cities, and counties. Data contained in the hardbound PC(1) and HC(1) reports were originally issued in separate softbound chapters PC(1)-A, B, C, and D and HC(1)-A and B.

2. Small Area Series - HC(3) Block Statistics and PHC(1) Census Tracts reports.

3. Subject Reports - PC(2) and HC(7). Data on selected subjects, generally reported at the national level. Some reports do include data for regions, divisions, States, SMSA's, and cities (see figure 4.4). Data Access Description No. 39 lists the individual subject reports with the subjects and areas covered.

4. Supplementary Reports - Miscellaneous reports primarily serving as convenient reprints of selected data from various reports, but in a number of cases presenting unique data not published elsewhere. See Data Access Description No. 39 for a complete list.

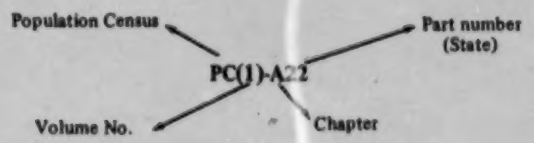
5. Other Data Series - HC(2), HC(4), HC(5), HC(6), PHC(2) and PHC(3) report series are briefly described in figure 4.2.

6. Methodological Reports - The evaluation series, PHC(E) is discussed in chapter 7, and the procedural series, PHC(R), is discussed in chapter 9.

B. Use of Figures 4.2 to 4.4 to Summarize Reports

Figures 4.2, 4.3, and 4.4 tell you a great deal about the publication program of the 1970 census. Figure 4.2 is a conventional list of all series, giving the series designation, title, unit of issue, and general descriptions of the subject matter and geographic areas covered. Figures 4.3 and 4.4 then provide a more precise guide to geographic area coverage of the major series: "Volume I" reports, tract and block reports in figure 4.3 and subject reports in figure 4.4. Charts which appear in Data Access Description No. 39 provide specific information on the units of issue of the various series (e.g., States, SMSA's).

1. Report Numbering - This manual makes heavy use of the series designation of reports rather than continually repeating the full titles, at least for "Volume I", tract and block reports. The structure of the report numbering is illustrated here:



The PC(1) indicates the volume I series for the population census, A is a subdivision or chapter within that series, and 22 indicates the specific unit of issue, in this case for the State of Maryland (see DAD No. 39). Where the chapter designation is missing (e.g., PC(1)) the reference is to the set of chapters taken together (e.g., A, B, C, and D) or to the clothbound volumes which combine the chapters into a single report. In the PC(1), HC(1), and HC(2) series the first report in each series is a U.S. Summary (e.g., PC(1)-A1).

2. Complete Count Versus Sample Data Reports - Figure 4.3 differentiates between reports containing complete-count data (e.g., age, race, household relationship) and those containing both complete-count and sample data (e.g., income, education, employment, etc.-see figure 2.1, page 6). The former group result from processing all questionnaires and thus yield more precise data. The latter group result from processing only the long form questionnaires collected from 20% of all households. The broader range of data in sample data reports is counterbalanced by the fact that the data are less precise, i.e., subject to sampling variability (see chapter 7).

Note, incidentally, that figure 4.3 associates each report series it covers with one of the summary tape series, first count through sixth count.

Figure 4.2 Summary of 1970 Census Report Series

Type of output		Title	Description	Geographic area	Unit of issue
Advance Series					
POPULATION:	PC(V1)	Final Population Counts.....	Official population counts.	States, counties, subdivisions, all incorporated places, unincorporated places of 1,000+.	United States; each State; District of Columbia.
	PC(V2)	General Population Characteristics	Data on age, sex, race, relationship to household head.	States, SMSA's, counties, places of 10,000+ population.	United States; each State; District of Columbia.
HOUSING:	HC(V1)	General Housing Characteristics...	Selected data on 100-percent housing subjects.	States, SMSA's, counties, places of 10,000+ population.	United States; each State; District of Columbia.
Final Series					
POPULATION:	PC(1)	Volume I, Characteristics of the Population.....	This volume consists of separate reports described in Series PC(1)-A through PC(1)-D below.	(See Series PC(1)-A through PC(1)-D below.)	
	PC(1)-A	Number of Inhabitants.....	Final official population counts.	States, counties (by urban-rural residence), SMSA's, urbanized areas, county subdivisions, all incorporated places, unincorporated places of 1,000+ population.	United States; each State; District of Columbia; Puerto Rico; Guam; Virgin Islands; American Samoa; Canal Zone; Trust Territory of the Pacific Islands.
	PC(1)-B	General Population Characteristics	Data on age, sex, race, marital status, and relationship to head of household (100% population subjects).	States, counties (as above), SMSA's, urbanized areas, county subdivisions, places of 1,000+ population.	
	PC(1)-C	General Social and Economic Characteristics.....	Data on population subjects collected on a sample basis.	States (by urban, rural-nonfarm, and rural-farm residence), counties, SMSA's, urbanized areas, places of 2,500+ population.	United States; each State; District of Columbia; and Puerto Rico.
	PC(1)-D	Detailed Characteristics.....	Data on most population subjects collected on a sample basis, presented in detail and cross-classified by age, race, and other characteristics.	States (by urban, rural-nonfarm, and rural-farm residence), SMSA's, large cities.	
	PC(2)	Volume II, Subject Reports.....	Detailed information and cross-relationships for selected population characteristics.	United States; regions; for a few reports, States and SMSA's.	Selected subjects.
	PC(S1)	Supplementary Reports.....	Open series presenting miscellaneous types of population data such as special compilations and selected tables.	United States; some by State and SMSA's, counties, and places of 2,500+ population.	Selected subjects.
HOUSING:	HC(1)	Volume I, Housing Characteristics for States, Cities, and Counties.	This volume consists of the separate reports described in Series HC(1)-A and HC(1)-B below.	(See Series HC(1)-A and HC(1)-B below.)	United States; each State; District of Columbia; Puerto Rico; Guam; Virgin Islands; American Samoa; Canal Zone; Trust Territory of the Pacific Islands.
	HC(1)-A	General Housing Characteristics...	Data on the housing subjects collected on a 100% basis.	States, counties, SMSA's(by urban-rural parts), urbanized areas, places of 1,000+ population.	
	HC(1)-B	Detailed Housing Characteristics..	Data on the housing subjects collected on a sample basis.	States, counties (by urban, rural-nonfarm, and rural-farm parts), SMSA's, urbanized areas, places of [illegible]00+ population.	United States; each State; District of Columbia; and Puerto Rico.
	HC(2)	Volume II, Metropolitan Housing Characteristics.....	Data covering most of the 1970 census housing subjects in considerable detail and cross-classification.	SMSA's and their component large cities.	United States; each SMSA.
	HC(3)	Volume III, Block Statistics.....	Selected data, 100% population and housing subjects.	Blocks.	Each urbanized area; contract block statistics areas by State.
	HC(4)	Volume IV, Components of Inventory Change.....	Data on components of change based on a sample survey conducted in late 1970 and early 1971.	Fifteen SMSA's, separately for central city and balance of SMSA	United States and regions; each of 15 SMSA's

	HC(5)	Volume V, Residential Finance....	Data on financing characteristics of homeowner properties and rental and vacant properties. Based on a sample survey conducted in early 1971.	United States, regions, presented by size of place and by type of area.	One report.
	HC(6)	Volume VI, Plumbing Facilities and Estimates of Dilapidated Housing.	Data on plumbing facilities reported in the census and estimates of dilapidation.	United States, regions, divisions, States, SMSA's, central cities and other cities of 50,000+ population, and constituent counties.	One report.
	HC(7)	Volume VII, Subject Reports.....	Detailed information and cross-classifications for selected housing characteristics.	United States, regions; for some reports, States and SMSA's.	Selected subjects.
	HC(S1)	Supplementary Reports.....	Open series presenting miscellaneous types of housing data such as special compilations and selected tables.	United States, regions, divisions, States, urbanized areas, Congressional districts, SMSA's, urbanized areas, counties, places of 2,500+ population, tracts.	Selected subjects.
JOINT POPULATION-HOUSING:	PHC(1)	Census Tract Reports.....	Data for most 1970 census population and housing subjects.	SMSA's by census tract.	Each SMSA.
	PHC(2)	General Demographic Trends for Metropolitan Areas, 1960 to 1970.	Comparative 1960 and 1970 data on population counts and selected 100% population and housing subjects.	State, counties (population counts only), SMSA's and their central cities and constituent counties.	United States; each State; District of Columbia.
	PHC(3)	Employment Profiles of Selected Low-Income Areas.....	Data on social and economic characteristics of residents of low-income areas based on sample surveys conducted during late 1970 and early 1971.	Selected poverty neighborhoods in cities.	Sixty reports for 51 cities; 1 report each for 7 rural areas.
METHODOLOGICAL REPORTS:	PHC(E)	Evaluation Reports.....	Open series presenting results of the 1970 census evaluation program.	United States	
	PHC(R)	Procedural Reports.....	Open series presenting information on administrative and methodological aspects of the 1970 census, including a comprehensive procedural history.		
		Other assorted titles.....	Includes technical papers, working papers, and coding manuals.		
OTHER REPORTS:	GE40	Census Tract Papers.....	Open series; papers on small-area research.		
	GE60	Computerized Geographic Coding....	Open series.		
	GE50	United States Maps.....	Open series.	United States; counties.	Selected subjects.
	GE70	United States Maps.....	Open series.	United States; counties.	Selected subjects.
	GE80	Urban Atlases.....	12 maps showing population and housing characteristics.	Census tracts within 65 SMSA's	Each of 65 SMSA's
		Index to 1970 Census Summary Tapes	Subject index to 1-4th summary tape counts		
		Index to Selected 1970 Census Reports.....	Subject index to PC(1), HC(1,2,3), and PHC(1,2).		
		1970 Census Users' Guide.....	Description of census concepts and procedures with census users' dictionary.		
		Assorted titles.....	Documentation to computerized files.		
		Data Access Descriptions.....	Papers on specific 1970 census data products.		

NOTE: This figure appears as figure 5 in the Student Workbook.

Figure 4.3 Geographic Areas Summarized in 1970 Census Data Products

Geographic area	Complete Count (100%) Data Only										Complete Count and Sample Data								
	First count				Second count				Third count		Fourth count				Fifth count		Sixth count		
	Summary tape	Microfilm	PC(1)-A[1]	HC(VI)[1]	Summary tape	PC(1)-B[1]	HC(1)-A[1]	PHC(1)[1] (part)	Summary tape	HC(3)[1]	Summary tape[2]	PC(1)-C[1]	HC(1)-B[1]	PHC(1)[1] (part)	Summary tape	Microfilm	Summary tape[2]	PC(1)-D[1]	HC(2)[1]
Blocks									x	x									
Enumeration districts or blockgroups	[4]A	x													C				
Census tracts					[5]A			x	([6])	([7])	[4]A			x	C				
Minor civil divisions or census county divisions	B	x	x		B	x					B				[8]C	x			
All places[9]	B	x	x												([8])				
Places > 1,000 only[9]					B	x	x												
Places > 2,500 only[9]											C	x	x						
Places > 10,000 only[9]				x															
Counties	B	x	x	x	B	x	x				C	x	x			x	[10]x		
Urban/rural parts of counties			x		B	x					C	x							
Standard metropolitan statistical areas	B	x		x	B	x	x	x			C	x	x				x	x	x
Urbanized areas of SMSA's	B	x	x		B	x	x				C	x	x						
Components of SMSA's					B			x			C						[10]x	x	x
Congressional districts	B	x													([11])				
State	B	x	x	x	B	x	x				C	x	x				x	x	
ZIP codes															A,B				

[1] Titles of these reports are given on fig. 4.2 and described in Data Access Description No. 39.
[2] On the fourth and sixth counts, population and housing data appear on separate files.
[3] MCD/CCD summaries are given only in counties with no census tracts.
[4] The first, second, fourth, and fifth counts have files designated A and B or A, B, and C.
[5] Tract totals appear for only that part of the tract which is covered by block summaries.
[6] Places include all incorporated places and unincorporated places of 5,000 or more in urbanized areas or of 1,000 or more elsewhere.
[7] Sixth count tapes provide data for metropolitan counties, central cities, and other cities over 50,000 population. Sixth count housing files also present data for nonmetropolitan counties of 50,000+.
[8] Data for small places can be created by aggregating summaries of component enumeration districts.
[9] The congressional district profile tape contains fifth count information and a few additional items.

NOTE: This figure appears as figure 6 in the Student Workbook.

Figure 4.4 Subnational Data in 1970 Census Subject Reports

Housing Reports		Regions	Div's	States	SMSA's	Cities
Housing Characteristics by Household Composition $5.90	HC(7)-1					
Housing of Senior Citizens $12.65	HC(7)-2			x	x	
Space Utilization of the Housing Inventory $4.55	HC(7)-3					
Structural Characteristics of the Housing Inventory $6.40	HC(7)-4					
Mover Households $7.00	HC(7)-5	x				
Mobile Homes $5.65	HC(7)-6	x	x	x	o	
Geographic Aspects for the Housing Inventory $2.60	HC(7)-7	x				
Cooperative and Condominium Housing $3.45	HC(7)-8			o	o	
Housing of Selected Racial Groups $2.35	HC(7)-9			o	o	
Population Reports						
National Origin and Language $5.05	PC(2)-1A	x			o	
Negro Population $3.70	PC(2)-1B	x	x	o	o	o
Persons of Spanish Origin $2.85	PC(2)-1C	x		o	o	
Persons of Spahish Surname $2.55	PC(2)-1D			1/	1/	1/
Puerto Ricans in the U.S. $2.35	PC(2)-1E	x	x	o	o	o
American Indians $2.60	PC(2)-1F	x		o	o	2/
Japanses, Chinese, and Filipinos in the United States $2.60	PC(2)-1G	x	x	o	o	o
State of Birth $3.20	PC(2)-2A	x	x	x	3/	
Mobility for States and the Nation $6.30	PC(2)-2B	x	x	x		
Mobility for Metropolitan Areas $6.35	PC(2)-2C				4/	
Lifetime and Recent Migration $7.50	PC(2)-2D		x	x		
Migration Between State Economic Areas $3.00	PC(2)-2E				5/	
Women by Number of Children Ever Born $5.90	PC(2)-3A	x				
Childspacing and Current Fertility $8.35	PC(2)-3B	x				
Family Composition $4.75	PC(2)-4A	x				
Persons by Family Characteristics $2.60	PC(2)-4B	x				
Marital Status $4.75	PC(2)-4C	x				
Age at First Marriage $4.50	PC(2)-4D	x		x		
Persons in Institutions and Other Group Quarters $5.05	PC(2)-4E	x	x	x	6/	6/
School Enrollment $5.40	PC(2)-5A	x				
Educational Attainment $3.75	PC(2)-5B	x				
Vocational Training $5.20						
Employment Status and Work Experience $6.30	PC(2)-6A					
Persons Not Employed $4.25	PC(2)-6B					
Persons with Work Disability $3.20	PC(2)-6C					
Journey to Work $14.60	PC(2)-6D				7/	7/
Veterans $3.60	PC(2)-6E					
Occupational Characteristics $7.25	PC(2)-7A					
Industrial Characteristics $5.80	PC(2)-7B					
Occupation by Industry $7.25	PC(2)-7C					
Government Workers $4.50	PC(2)-7D					
Occupation and Residence in 1965 $2.50	PC(2)-7E	x				
Occupations of Persons with Higher Earnings $2.10	PC(2)-7F					
Sources and Structure of Family Income $7.00	PC(2)-8A	x				
Earnings by Occupation and Education $6.10	PC(2)-8B	x				
Income of the Farm-Related Population $11.05	PC(2)-8C			x		
Low-Income Population $6.90	PC(2)-9A	x				
Low-Income Areas in Large Cities $7.75	PC(2)-9B					8/
Americans Living Abroad $2.90	PC(2)-10A					
State Economic Areas $3.50	PC(2)-10B				5/	

1/ State, SMSA and city data in Cal., Tex, NM, Ariz., Colo. only
2/ Also Indian Reservations
3/ SMSA's 250,000+
4/ SMSA's 500,000+
5/ 510 S.E.A's including most large SMSA's defined as in 1960
6/ SMSA's 500,000+, Counties and places with 1,000+ inmates
7/ SMSA's 250,000+ and constituent counties and large places
8/ 50 largest cities, New York City boroughs

Key

x Data for all areas
Data for selected areas only

3. Example Using Figures 4.2 and 4.3 - Figure 4.2 indicates that the PC(1) series consists of 4 chapters, A to D. Figure 4.3 indicates that PC(1)-A and -B contain complete count data only and that PC(1)-C and -D contain both complete count and sample items. Figure 4.2 indicates that the four chapters successively increase the breadth and complexity of the data presented: PC(1)-A contains only population counts, PC(1)-B contains tabulations of complete count subjects, PC(1)-C presents sample data, and PC(1)-D presents sample data in detail and with cross-classifications.

   On the other hand, geographic detail in these reports decreases as one goes from PC(1)-A through PC(1)-D. Figure 4.3 shows that PC(1)-A provides data for all places, MCD's/CCD's, counties, SMSA's, urbanized areas, and congressional districts. By comparison PC(1)-B omits data for places under 1,000 population and congressional districts. PC(1)-C further omits data for MCD's/CCD's and places under 2,500 population. Finally PC(1)-D eliminates virtually all place and county data and presents summaries usually only at the State level and for SMSA's of 250,000 population or more - given the huge volume of tabulations for each area it is understandable that the number of areas must be so severely restricted.

C. User Notes on Selected Series

Some descriptive information about the reports in each series is presented in Data Access Description No. 39. Additional notes on Volume I and the major small area series follow below.

1. PC(1)-1 and HC(1)-1 present data for the United States, its regions and divisions, and, to a progressively lesser extent, for States, SMSA's, and large cities. Subjects are presented in generally the same sequence as they are in the State reports, but the table numbering is different to allow for the different types and number of geographic areas involved. The correspondence between State reports and U.S. summary table numbering is shown in a chart on pages 6 and 7 of the Index to Selected 1970 Census Reports. This chart can be used as a convenient guide to those U.S. summary tables that present together data for all States or all SMSA's. U.S. summary reports also present certain compilations, rankings, time series, and other data not included in State reports. Graphics, including some in color, are presented at the beginning of PC(1)-A1, PC(1)-C1, HC(1)-A1, and HC(1)-B1 U.S. summary reports, and are also reprinted in PC(S1)-55 and HC(S1)-16.

   The hardbound volumes entitled "Number of Inhabitants" are a different kind of U.S. summary. It is a two-volume set reprinting the PC(1)-A U.S. summary and the PC(1)-A chapter for each State.

   The chart in the Index to Selected 1970 Census Reports indicates that U.S. summaries are also available in the HC(2) and PHC(2) series and that the supplementary report PC(S1)-29 serves as a U.S. summary for the Census Tracts PHC(1) series, with data also for each State.

2. Census Tracts Reports: Note on Split-Tracts. Census Tracts PHC(1) reports provide data for only those tracts inside SMSA's. Data for census tracts elsewhere are available only on computer tape or paper copies reproduced for a fee.

   When using Census Tracts reports, users are frequently confused by data presentation for "split tracts", that is, those which cross the boundaries of one or more places of 25,000+. Those municipal boundaries are shown by dotted lines on the maps in tract reports (see figure 3.6, page 28). When the data are presented for a split tract under the heading of one city, the summary is only for that portion of the tract which is inside the city boundaries. Data for the remaining portion of the tract appear either under the heading for another city or under "Balance of County." Totals for split tracts are at the end of the table with a column heading to that effect. Thus there are three columns of data for every split tract: the portion within the city boundary, the portion outside the city boundary, and the tract total.

3. Block Statistics Reports - Most Block Statistics, HC(3), are issued by urbanized area, and in a number of cases the urbanized area name is different from the SMSA name. For instance, block statistics for the Newark, Jersey City, and Patterson-Clifton-Passaic, New Jersey, SMSA's are part of the New York-Northeastern New Jersey urbanized area Block Statistics report. A few SMSA's contain more than one urbanized area, for which separate HC(3) reports are issued.

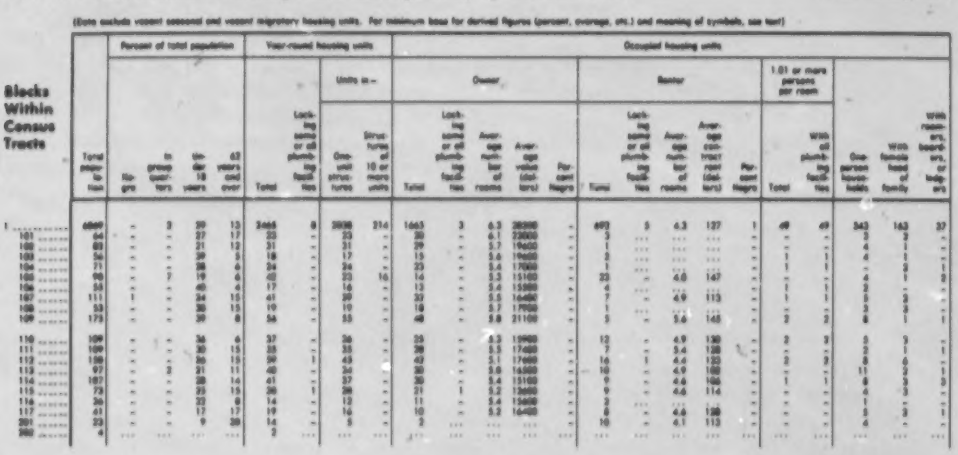
   While it is generally said that block statistics cover only the urbanized area, data are frequently given for some blocks just outside the urbanized area. Since the actual extent of the urbanized area could not be determined until data from the census were analyzed, data were collected for all blocks thought to be potentially in the urbanized area. Tabulations were made and published for blocks which did not actually qualify to be included in the urbanized area. The extent of block statistics is indicated on the Metropolitan Maps in the HC(3) reports by whether a three-digit number appears within each block.

   In some areas, local governments contracted to have data collected and tabulated by block outside urbanized areas. These data are reported in Block Statistics reports subtitled "Selected Areas in (State)", and maps therein define the areas so covered. Data Access Description No. 15 provides a list of the cities and counties included in the contract block statistics program.

Figure 4.5 below illustrates the 24 data items provided in Block Statistics reports.

Figure 4.5 Sample Table From a Block Statistics Report HC(3)

Table 2. **Characteristics of Housing Units and Population, by Blocks: 1970** Travis County, Tex.



The first data line shows data for a census tract, preceding the summaries for individual blocks within the tract. Tract summaries appear in these reports only in areas covered by block statistics. Sometimes only a part of a tract is in the block statistics program; the summary in the HC(3) report represents only that part of the tract which is blocked,and will disagree with figures for the tract in the corresponding PHC(1) report.

Notice in the table that some figures are replaced by three dots "...". As stated earlier, thic indicates that data have been withheld (suppressed) to avoid disclosure about particular people. Suppression occurs primarily where the number of persons or housing units is very small, and thus occurs relatively frequently in block statistics reports.

As reported in the evaluation report PHC(E)-1 "Quality of Residential Coding" (see page 84), nationally there was an estimated 8% error rate in coding data to the correct block. Most of those errors were only errors of transposition with an adjacent block, and their effect may not be critical where blocks are aggregated to approximate school districts, traffic zones or other areas of interest.

Some of the coding errors trace back to errors in the computerized address coding guide and may involve the misassignment of an entire side of a block. Discrepancies between observed housing counts and published counts are not necessarily due to coding errors, but may represent changes that occurred after the census or the inability of the casual observer to determine the number of housing units in a multi-unit structure.

D. Importance of Textual Material in Reports

Census reports include the basic information required for interpretation of the data. Maps in PC(1), HC(1), HC(3) and PHC(1) reports have been mentioned already. Introductory material describes basic features of the census. Definitions of geographic terms are in the "Appendix A" of the various reports. Concept definitions, frequently with facsimilies of the relevant parts of the census questionnaire and associated respondent instructions are in "Appendix B". PHC(1), PC(1)-C, PC(1)-D, and HC(1)-B reports include an "Appendix C" entitled "Accuracy of the Data" which discusses nonsampling errors, sample weighting, and sampling variability. These are all relevant to data use and are as important as learning where data are in the reports. Instructors frequently find it convenient to photocopy selected data tables for students, but it is important to also inform them where to find the textual material relevant to interpretation of the data.

E. Finding Data in Census Reports

The geographic areas summarized in the more common small area reports are shown in figure 4.3 (same as figure 6 of the Student Workbook). PC(1), HC(1), and HC(2) reports have Table Finding Guides (see page 136 to 139) inside the front cover which are frequently efficient ways of finding simple distributions of particular variables for a given type of area, assuming you are using the correct report in the first place. The table finding scheme employed in the Index to Selected 1970 Census Reports, as described on page 113 is more definitive, especially where more than one report may be needed or where the search is for cross-classified subject items.

Section III: ADVANTAGES AND DISADVANTAGES OF PRINTED REPORTS RELATIVE TO COMPUTER SUMMARY TAPES

There are several advantages and disadvantages associated with the use of the printed reports, as compared to working with the computer summary tapes discussed in chapter 5.

A. Advantages

1. Cost - Printed reports are relatively inexpensive, usually under $5.00.

2. Ease of Use - Printed reports, contain in a single document all that is needed to understand the data: labeled tables, data in eye-readable form, an introductory text which explains relevant concepts, information about statistical reliability, and maps. They are easier to use than summary tapes for many purposes. The summary tapes require several explanatory documents in addition to the tapes themselves as well as computer resources. Using the summary tapes also means working with programmers who have to translate analyst needs into a set of instructions understood by the computer.

3. Availability - Printed reports may be more readily available than census computer tapes. Major libraries generally have census reports available for use on the premises.

B. Disadvantages

1. Less Information - The printed reports do not provide as much information as the summary tapes. It simply is not practical to put all of the tabulated data on tape into the form of printed reports--the result would be too voluminous, too cumbersome to work with, and too expensive. Figure 4.6 illustrates the differences between the level of detail on tape and in print for blocks and tracts (e.g., 21 age categories by block on tape versus 2 percentage figures in print.)

2. Less Geographic Detail - The printed reports do not provide as much geographic detail as the summary tapes. They do not, for example, contain data for ZIP Code areas, enumeration districts, or block groups. Whereas the PC(1) and HC(1) reports give more subject detail for large geographic areas than for small areas, summary tapes have a uniform amount of detail for all of the areas they contain.

3. Harder to Deal with Large Amounts of Data - It may be generally easier to use reports than tapes to look up a few numbers, but when the volume of numbers being analysed is very large, computers can deal with that volume of data from tape more quickly and accurately than a clerical effort with reports.

Section IV: OBTAINING REPORTS

A. Finding Reports in Libraries

About 1200 libraries in the country are Government Depository Libraries, and receive Federal Government publications without charge. This does not mean that they automatically get all census publications, but many choose to maintain substantial collections and others obtain those census publications covering their local area. Only 40 "regional depositories" and 102 Census Depository Libraries automatically receive every census publication. A list of depository libraries is available upon request.

Some non-depository libraries also have good census collections. U.S. Department of Commerce district offices (cities listed in the Student Workbook) and Bureau of the Census regional offices (see p. 134) generally have good collections of census publications for review. Chambers of commerce, city planning agencies, and summary tape processing centers frequently also have census reports of local interest.

B. Purchasing Census Reports

Census data reports are sold by the U.S. Government Printing Office (GPO), Washington, D.C. 20402. Orders can be placed if you specify the title and originating agency, though it helps to have GPO classification or stock numbers as given in the Census Catalog. Unfortunately, orders to GPO frequently require several months to fill. If you are ordering several different publications at the same time it may be worthwhile to place each order separately so that the whole order is not delayed if one of the publications is not readily found. GPO also no longer stocks

Figure 4.6 Comparison of Item Detail on Tape and in Printed Reports

Illustrative Examples

AGE

1st Count Summary Tapes	2nd Count Summary Tapes	3rd Count Summary Tapes	Printed Block Report	4th Count Summary Tapes	Printed Tract Report
Under 5	Under 1	Under 5	Percent 0-17	Under 3	Under 3
5	1	5	Percent 62 and over	3-4	3-4
6	2	6		5	5
7-9	3	7-9		6	6
10-13	4	10-13		7-9	7-9
14	5	14		10-13	10-13
15	6	15		14	14
16	7	16		15	15
17	8	17		16	16
18	.	18-19		17	17
19	.	20		18	18
20	.	21		19	19
21	.	22-24		20	20
22-24	.	25-34		21	21
25-34	.	35-44		22-24	22-24
35-44	.	45-54		25-29	25-34
45-54	.	55-59		30-34	35-44
55-59	.	60-61		35-39	45-54
60-61	.	62-64		40-44	55-59
62-64	.	65-74		45-49	60-64
65-74	99	75 and over		50-54	65-74
75 and over	100 and over			55-59	75 and over
				60-61	
				62-64	
				65-69	
				70-74	
				75 and over	
Crosstabulated by Sex	Crosstabulated by Sex by Race	Crosstabulated by Sex		Crosstabulated by Sex	Crosstabulated by Sex

RACE

1st Count Summary Tapes	2nd Count Summary Tapes	3rd Count Summary Tapes	Printed Block Report	4th Count Summary Tapes	Printed Tract Report
White	White	White	Percent Negro or Black	White	White
Negro or Black	Negro or Black	Negro or Black		Negro or Black	Negro or Black
Indian	Indian	Other		Other	Other
Other Specified Race	Japanese			Spanish American *	Spanish American *
Other	Chinese				
	Filipino				
	Hawaiian				
	Korean				
	Other				
Three of the categories crosstabulated by sex	Crosstabulated by Sex	Crosstabulated by Sex		Crosstabulated by over 1,000 cells of sample information	Crosstabulated by about 50 cells of sample information

* Spanish American is an ethnic rather than racial category. This population is also included in counts of whites, Negroes, and others.

certain tract and block reports. GPO has recently been raising prices, and may occasionally charge more than the price printed in the publication. GPO bookstores in 23 cities stock some Census Bureau reports for sale. Some, but not all, U.S. Department of Commerce district offices have census reports for sale. Order forms for census publications, which specify prices and make ordering easier, are available on request from the Subscriber Services Section, Bureau of the Census, Washington, D.C. 20233. That unit will also sell single copies of reports for the GPO price if the report is needed in a hurry. Subscriber Services can also obtain a number of census reports which GPO no longer stocks.

C. Microfiche of the 1970 Census Final Reports

The 1970 census final reports--in fact all census final reports published since 1968--are also released in the form of microfiche (illustrated in the 1970 Census Users' Guide, Part I, page 44). Microfiche is a 4" by 6" card with micro-images (similar to microfilm) of 97 report pages, thus dramatically reducing storage space requirements. Many libraries have the readers necessary to use microfiche. Microfiche copies of the printed reports may be obtained from the Bureau of the Census Library, Washington, D.C. 20233; prices for specific titles are available by writing to the Library.

Even though some reports may have gone out of print, it should always be possible to get microfiche or a paper copy reproduction from the Census Library. Many major libraries around the country maintain microfiche of census publications as a backup in case the publications become lost or stolen.

Section V: HISTORICAL DATA AVAILABLE IN PRINT

A. Historical Data in the 1970 Census Reports

Volume I, PC(1), reports provide selected historical statistics: 1960-70 age distributions for places of 10,000+ and counties, 1960-70 population comparisons for MCD/CCD's and small places, and 1900-70 populations for cities of 10,000+. There are also other historical comparisons for characteristics at the National and State level--the entries under "Census Year" in the Index to Selected 1970 Census Reports provide the most direct access to historical tables in the 1970 census reports.

B. 1960 Census Reports

The data contents of the 1960 census reports, while not identical to their 1970 counterparts, are similar--although table numbering is different. The correspondence between the tables can be determined from Data Access Description No. 27 for PC(1)-A, PC(1)-B, HC(1)-A, and HC(1)-B reports.

1960 census reports are available at many libraries. Copies reproduced from microfilm are available from the Census Bureau. Prices and an order form are contained in Data Access Description No. 35.

C. Reports from the 1950 and Earlier Censuses

The only available guide to earlier census reports is in the Bureau of the Census Catalog of Publications: 1790 to 1972, discussed in chapter 9. If copies of 1950 and earlier reports are not available through a local library, contact the Bureau of the Census Library which may be able to photocopy selected tables, or refer you to a commercial source for microforms of those reports.

Section VI: PRESENTATIONS OF DATA IN NON-TECHNICAL FORMS

A. We, the Americans--National Data

The Census Bureau published 15 booklets discussing various general findings from the 1970 census, on subjects ranging from suburban growth to income to data on blacks and persons of Spanish ancestry. Only data at the national level are discussed. The We, the Americans series was designed primarily for secondary students and has easy-to-read text and simple, colorful graphs and illustrations. DAD No. 39 lists the titles.

B. Textual Profiles for States and Smaller Areas

Several Census Bureau products provide selected data in narrative form, especially useful for audiences not accustomed to reading statistical tables. These profiles, most of them computer-generated, provide some comparisons between the State, city, or congressional district and a larger unit of which it is a part.

1. State Statistical Portraits - For States, D.C., and Puerto Rico a four-page portrait presents a concise summary of basic information about the population, housing, and agriculture of the State. The data included are based on the 1970 Census of Population and Housing and the 1969 Census of Agriculture. Copies are available for 10 cents each from the Subscribers' Services Section (Publications), Bureau of the Census, Washington, D.C., 20233.

2. State Profiles - For States and D.C., these computer-generated profiles, 20-25 pages in length, present selected demographic, socio-economic, and housing data from the 1970 Census. Each profile also includes data for the census geographic division in which the State is located for comparative purposes.

   The format generally involves a two or three-paragraph presentation on a particular subject, such as mobility of the population, educational attainment, occupations of employed persons, income, tenure of housing, or value of owner-occupied units, followed by a table giving counts and percentages for the State and geographic division. About 25 such subjects are covered in each report.

Copies of the State Profiles are available for $2.50 each, and a microfilm reel containing profiles of all the States is available for $8.00. They may be ordered from the Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C., 20233.

3. Central City-SMSA Profiles - One for each central city, these 24-page computer-generated profiles are similar in content and format to the State Profiles. (Figure 4.7 is a sample page.) These profiles present a variety of demographic, socioeconomic, and housing data from the 1970 Census for all central cities and their SMSA's. Copies are $2.20 each, and may be ordered from the Customer Services Branch (see address under State Profiles).

4. Congressional District Computer Profiles - These profiles for Districts of the 93rd Congress are available for all States with 2 or more Congressional Districts. The content of the profiles is essentially the same as the State Profiles. The profiles may be obtained on microfiche at $2.25 per State, or on paper copies reproduced from the microfiche. Prices of the paper copies vary per State depending on the number of pages. To order, or obtain price information, write to the Bureau of the Census Library, Washington, D.C., 20233.

C. Data Maps

The spatial distribution of a population with particular characteristics is more easily visualized with maps than with statistical tables. The 1970 census produced four series of color-coded maps of population characteristics.

1. GE-50 Series Maps - These maps show selected population characteristics for counties. A list of the subjects of the GE-50 maps is in Data Access Description No. 39, pages 8-9. The map size is 30" by 42". If a given map is no longer available from GPO, write to the Geography Division, Bureau of the Census, Washington, D.C. 20233.

2. GE-70 Series - This series corresponds to the GE-50 series, but in a smaller size: 20" by 30". Only two maps have been published in this series, but one has received considerable interest. GE-70, No. 1 suggests a nighttime view of the U.S. from a satellite. The map uses white dots on a dark background to indicate urbanized areas, places of different sizes, and rural populations.

3. Graphic Summaries - Two supplementary reports, PC(S1)-55 and HC(S1)-16, reproduce the data maps and graphics shown in the U.S. Summary volumes of the PC(1) and HC(1) reports. (They are out of print.)

4. GE-80 Urban Atlas Series - This is a series of atlases for the 65 largest SMSA's (minimum population size is 500,000) which display data characteristics from the 1970 Census for census tracts. This

Figure 4.7 Central City-SMSA Profile

TUSCALOOSA, ALABAMA

I. GENERAL

TUSCALOOSA IS THE CENTRAL CITY OF THE TUSCALOOSA STANDARD METROPOLITAN STATISTICAL AREA. AN SMSA, IN GENERAL, IS A COUNTY OR A SET OF CONTIGUOUS COUNTIES WITH ONE OR MORE 'CENTRAL' CITIES OF 50,000 OR MORE INHABITANTS. A DETAILED DEFINITION OF SMSA'S WITH A LISTING OF THEIR COMPONENT PARTS MAY BE FOUND IN U.S. BUREAU OF THE CENSUS, 1970 CENSUS OF POPULATION, 'POPULATION OF STANDARD METROPOLITAN STATISTICAL AREAS, 1950 TO 1970', PC(S1)-7, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON D.C.

II. CHARACTERISTICS OF THE POPULATION

IN APRIL, 1970, THERE WERE 65,773 PERSONS LIVING IN TUSCALOOSA. THIS NUMBER REFLECTS THE POPULATION ENUMERATED DURING THE 1970 CENSUS OF POPULATION AND HOUSING. THE CITY'S POPULATION REPRESENTED 56.7 PERCENT OF THE TOTAL POPULATION OF 116,029 IN THE SMSA.

EDUCATIONAL ATTAINMENT

OF THE POPULATION 25 YEARS OLD AND OVER IN TUSCALOOSA, 30.7 PERCENT HAD A GRADE SCHOOL EDUCATION OR LESS, 50.4 PERCENT WERE HIGH SCHOOL GRADUATES, INCLUDING 26.4 PERCENT WHO HAD COMPLETED SOME YEARS OF COLLEGE. FOR THE SMSA, THE FIGURES WERE 34.3 PERCENT WHO HAD COMPLETED EIGHT OR FEWER YEARS OF SCHOOL, 44.8 PERCENT WHO HAD COMPLETED AT LEAST HIGH SCHOOL, AND 19.6 PERCENT WHO HAD COMPLETED ONE OR MORE YEARS OF COLLEGE. THE MEDIAN SCHOOL YEARS COMPLETED FOR PERSONS 25 YEARS OLD AND OVER WAS 12.0 YEARS IN TUSCALOOSA, AS COMPARED TO 11.3 YEARS FOR THE SMSA AS A WHOLE.

ABOUT 15.7 PERCENT OF THE POPULATION 25 YEARS OLD AND OVER IN THE CITY HAD COMPLETED FOUR YEARS OF COLLEGE OR MORE, COMPARED WITH 10.9 PERCENT FOR THE SMSA.

YEARS OF SCHOOL COMPLETED FOR THE CITY AND SMSA

	CITY		SMSA	
	NUMBER	PERCENT	NUMBER	PERCENT
PERSONS 25 YRS. AND OVER .	33,612	100.0	60,030	100.0
NO SCHOOL YRS. COMPLETED. . .	1,527	4.5	2,230	3.7
ELEMENTARY: 1 TO 7 YRS. . .	6,888	20.5	13,869	23.1
8 YEARS	1,910	5.7	4,477	7.5
HIGH SCHOOL: 1 TO 3 YRS. . .	6,355	18.9	12,546	20.9
4 YEARS	8,050	23.9	15,125	25.2
COLLEGE: 1 TO 3 YRS. . .	3,599	10.7	5,192	8.6
4 YRS. OR MORE.	5,283	15.7	6,571	10.9
MEDIAN SCHOOL YRS. COMPLETED.	12.0	...	11.3	...

series is essentially a graphic supplement to the PHC(1) Census Tracts reports. The following 12 characteristics are mapped in color on separate 19" x 22" pages:

1. Population density: population per square mile.
2. Percent of the population under 18 years of age.
3. Percent of the population over the age of 65.
4. Black population as a percentage of the total population.
5. Percentage of persons over 25 years of age who are high school graduates.
6. Median family income.
7. Interrelationship of family income and educational attainment.
8. Percentage of the labor force employed in blue collar occupations.
9. Median housing value.
10. Median contract rent.
11. Percentage of housing units which are owner occupied.
12. Percentage of occupied units constructed after 1960.

In addition to the publications, a digitized census tract boundary file has been created for every SMSA. The files contain all the required geocoded tract boundary coordinates, tract centroid coordinates, and map boundary coordinates needed by a user for creation of one's own maps using any of the standard computer mapping or plotting programs. The technical documentation describes how maps of other census data items or non-census data can be created. Data files with selected items for each census tract have also been prepared in connection with this project.

The mapping files and data files are sold by the Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233. The atlases are being published on a flow basis through 1976 and early 1977. The atlases are available from the Government Printing Office, Washington, D.C. 20402. Figure 4.8 lists the SMSA's included in the Urban Atlas publication series.

Figure 4.8 Urban Atlas Publication Series

Metropolitan Areas included in the Urban Atlas Publication Series:

SUMMARY--65 SMSA's in 36 States

State and Standard Metropolitan Statistical Areas[1]

ALABAMA
*Birmingham

ARIZONA
Phoenix

ARKANSAS
*(Memphis, Tenn.-Ark.)

CALIFORNIA
Anaheim-Santa Ana-Garden Grove
Los Angeles-Long Beach
Sacramento
San Bernardino-Riverside-Ontario
San Diego
San Francisco-Oakland
*San Jose

CONNECTICUT
Hartford
(Springfield-Chicopee-Holyoke, Mass.-Conn.)

COLORADO
Denver

DISTRICT OF COLUMBIA
Washington, D.C.-Md.-Va.

FLORIDA
Fort Lauderdale-Hollywood
Jacksonville
Miami
*Tampa-St. Petersburg

GEORGIA
Atlanta

HAWAII
Honolulu

ILLINOIS
Chicago
*(St. Louis, Mo.-Ill.)

INDIANA
Gary-Hammond-East Chicago
Indianapolis
*(Cincinnati, Ohio-Ky.-Ind.)
(Louisville, Ky.-Ind.)

IOWA
(Omaha, Nebr.-Iowa)

KANSAS
(Kansas City, Mo.-Kans.)

KENTUCKY
Louisville, Ky.-Ind.
*(Cincinnati, Ohio-Ky.)

LOUISIANA
New Orleans

MARYLAND
Baltimore
(Washington, D.C.-Md.-Va.)

MASSACHUSETTS
Boston
Springfield-Chicopee-Holyoke, Mass.-Conn.
(Providence-Pawtucket-Warwick, R.I.-Mass.)

MICHIGAN
Detroit
Grand Rapids
*(Toledo, Ohio-Mich.)

MINNESOTA
Minneapolis-St. Paul

MISSOURI
Kansas City, Mo.-Kans.
*St. Louis, Mo.-Ill.

NEBRASKA
Omaha, Nebr.-Iowa

NEW JERSEY
Clifton-Paterson-Passaic
Jersey City
Newark
(Allentown-Bethlehem-Easton, Pa.-N.J.)
(Philadelphia, Pa.-N.J.)

NEW YORK
*Albany-Schenectady-Troy
Buffalo
*New York
*Rochester
*Syracuse

NORTH CAROLINA
Greensboro—Winston-Salem—High Point

OHIO
Akron
*Cincinnati, Ohio-Ky.-Ind.
Cleveland
Columbus
*Dayton
*Toledo, Ohio-Mich.
Youngstown-Warren

OKLAHOMA
*Oklahoma City

OREGON
Portland, Oreg.-Wash.

PENNSYLVANIA
Allentown-Bethlehem-Easton, Pa.-N.J.
Philadelphia, Pa.-N.J.
Pittsburgh

RHODE ISLAND
Providence-Pawtucket-Warwick, R.I.-Mass.

TENNESSEE
*Memphis, Tenn.-Ark.
Nashville-Davidson

TEXAS
Dallas
Fort Worth
Houston
San Antonio

UTAH
Salt Lake City

VIRGINIA
Norfolk-Portsmouth
*Richmond
(Washington, D.C.-Md.-Va.)

WASHINGTON
Seattle-Everett
(Portland, Oreg.-Wash.)

WISCONSIN
Milwaukee

[1]Boundaries and titles as of April 1970 census.
*Not published as of January 1, 1977.

CHAPTER 5

COMPUTERIZED PRODUCTS AND RELATED SERVICES FROM THE 1970 CENSUS

Section I: 1970 CENSUS SUMMARY TAPES

A. Definition of Summary Tapes

Summary tapes are magnetic computer tapes containing summary data. Summary data on tape are directly comparable to summary data in the published reports discussed in chapter 4--numbers of persons, families or housing units distributed by their various characteristics--except that they are in a form readable by a computer rather than by the human eye. These tapes provide totals or frequency distributions and should not be confused with the Census Bureau's confidential computer tapes containing the original records provided by individuals in the 1970 census. Since the summary tapes we discuss here have been edited to remove data likely to disclose information about particular people, these are known as "public-use" summary tapes.

The availability of these data in computerized form is one of the most significant advances associated with the 1970 census. Although the Census Bureau made some summary tapes available from the 1960 census, those tapes were difficult to use for a number of technical reasons. 1970 summary tapes are well documented and compatible with most common computer hardware.

As illustrated by figure 5.1, data on summary tapes would appear as strings of numbers if merely listed or "dumped". A computer program is necessary to interpret the numbers according to their specific locations to provide an eye-readable display useable to most people.

B. Advantages and Disadvantages of Summary Tapes Relative to Printed Reports

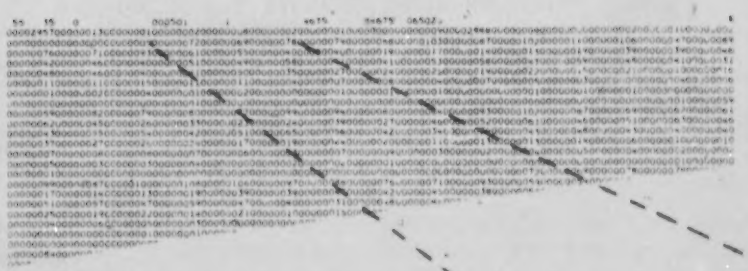
1. Advantages

   a. Data manipulation--It is easier to rearrange and perform calculations on data in computerized form than to perform the same tasks by hand with data from printed reports, particularly when large amounts of data are involved. Examples of useful manipulations of data include-

      - percents, ratios, medians, standard deviations, and other special statistics;
      - rankings and other special arrangements to highlight relationships among items or areas;
      - computer-generated maps and graphic displays; and

Figure 5.1 Illustration of Data on Summary Tapes

"Dumped" as a string of decimals



00000072000000690000078

Displayed for use

SUBJECT

TRACT 0001

AGE	MALE	FEMALE
TOTAL	3 510	3 671
UNDER 1 YEAR	74	89
1 YEAR	69	82
2 YEARS	78	112
3 YEARS	92	100
4 YEARS	115	115
5 YEARS	112	119
6 YEARS	110	104
7 YEARS	95	113
8 YEARS	100	112
9 YEARS	95	84
10 YEARS	87	93
11 YEARS	104	79
12 YEARS	88	82
13 YEARS	73	85
14 YEARS	74	65
15 YEARS	66	61
16 YEARS	45	51
17 YEARS	50	56
18 YEARS	34	36
19 YEARS	25	28
20 YEARS	13	19
21 YEARS AND OVER	1 837	2 006

Each data item is a count of persons or households with a particular characteristic in a particular area.

- aggregation of data for groups of blocks into "neighborhoods" of local interest, or counties into substate regions.

b. Data for more areas--Data are provided on tape for a number of types of areas that do not appear in print: enumeration districts and block groups, ZIP code areas, census tracts outside of SMSA's.

c. More data for the same areas - Summary tapes frequently provide many more data tables, more subject items, and more detailed categories for areas for which data are published. This is especially true of small areas. This point was well illustrated by figure 4.6 (page 47).

2. Disadvantages

a. Cost - Computer tapes cost more than printed reports (currently $80 per reel and the data for a single State can involve many reels). The purchase price for the tapes, however, is only a fraction of the total cost. Programming expenses, computer time, and other costs associated with tape use may easily dwarf the initial cost of the tapes.

b. Use - Using printed reports requires simply looking at the appropriate report. Computer tapes, however, are much more difficult to use. The tapes require technical documentation, computer programs, and maps. Tape use requires advance preparations (programming, etc.) and necessitates more lead time than does use of published reports. Further, programmers often do not have experience with the relatively large tape files and records from the census. Data on tape can deteriorate with time and use (i.e., become unreadable) if not properly handled. (Other considerations, such as hardware and software compatibility, are discussed in Data Access Description No. 18, "General Information About Summary Tapes.")

3. Summary Tape Processing Centers - Summary tapes may be purchased from the Census Bureau's Customer Services Branch. Not all users, however, have sufficient need to justify this investment or have access to data processing services. This problem is lessened by the existence of Summary Tape Processing Centers (STPC's). These are public and private organizations such as councils of government, universities, and consulting firms, who have indicated their willingness to do summary tape processing for other users. A list of STPC's is available on request from the Census Bureau's Data User Services Division.

Summary Tape Processing Centers necessarily charge for their services, to recover acquisition, programming, computer and administrative costs. The Bureau cannot regulate the prices or services STPC's offer. Level of expertise varies considerably from center to center.

Some Centers have created special extract files which may meet certain needs more efficiently than the tapes available from the Bureau

(e.g., a file containing data for all counties in the U.S. together).

C. The Six "Counts" of Small Area Data

All of the data presented in the various report series could not all be tabulated at once for a number of practical reasons. Data for each of the major report series providing substate data were generated in one of six major computer tabulation runs called "counts", individually designated as the First Count, Second Count, and so on. Each count involved the tabulation of data for certain kinds of areas, but not for others. Two, and sometimes three, kinds of data products were derived from each count: printed reports, public-use summary tapes, and in two cases computer-output microfilm. The products of the various counts can be noted in the heading of figure 4.3 (page 40). Generally we refer only to the public-use summary tapes when speaking of a particular count.

1. 1970 Census Summary Tape Chart - Figure 5.2 summarizes the six counts and the various "files" into which they are subdivided. Within each count all of the data tables and formats are the same. Files A, B, or C within a count separate data for different types of geographic areas, but otherwise provide the same tabulations.

   a. Complete Count or Sample Data - Note the "Complete Count or Sample" column of figure 5.2. The first three counts were derived from 100% data, and obviously subject content is restricted to tabulations of complete count data items (see figure 2.1, page 6). Counts 4 to 6, designated "20%, 15%, 5%", in figure 5.2 cover the full range of census data, based on the samples of the various sizes. As discussed in chapter 7 (see pages 79 to 83) complete count data items are found in counts 4 to 6, as well as 1 to 3, but, since they are based only on the sample cases, they are subject to sampling variability and may differ somewhat from corresponding numbers on counts 1 to 3. Obviously, it would be preferable to use data based on 100% of all questionnaires (counts 1 to 3) whenever practical.

   b. Number of Tables and Data Cells - A data cell is a single number as it appears in a statistical table. A table where persons are cross-tabulated by 20 categories of age and 3 categories of race would contribute 3 x 20 or 60 to the data cell total for that count. As stated above, the number of data cells is constant for all areas in a file. The First Count tapes, for example, contain the same 400 cells of information for each enumeration district as they do for the State.

   c. Number of Tape Reels - The number of tape reels shown in the right hand column of figure 5.2 gives a general idea of the magnitude of each file. Each file is released on a State by State basis and the number of tapes per State is indicated in 5.3. Note that no single reel of tape has a summary for the U.S. Given that fact, one may want to consider punching up selected data from a U.S. summary printed report, or buying U.S. summary data on tape from

Figure 5.2 1970 Census Summary Tapes: Counts and Files

Summary Tape Series		Geographic Areas Covered	Complete-Count or Sample	No. of Tables and Data Cells for Each Area	Reels for U.S.**
1st Count	File A	Block Group or Enumeration District	100%	54 tables containing 400 cells	108
	File B	State, County, Minor Civil Division or Census County Division, MCD-Place, Place, Congressional District			58
2nd Count	File A	Tract	100%	93 tables containing 3,500 cells	108
	File B	State, County, Minor Civil Division or Census County Division, Place, SMSA, and Component Areas			155
3rd Count		Block	100%	38 tables containing 250 cells	240
4th Count Pop.	File A	Tract	20% 15% 5%	127 tables containing 7,100 cells	144
	File B	Minor Civil Division or Census County Division		127 tables containing 7,100 cells	125
	File C	State, County, Place, SMSA, and Component Areas		127 tables containing 14,500 cells*	95
4th Count Hous.	File A	Tract	20% 15% 5%	200 tables containing 6,600 cells	203
	File B	Minor Civil Division or Census County Division		200 tables containing 6,600 cells	196
	File C	State, County, Place, SMSA, and Component Areas		200 tables containing 12,200 cells	108
5th Count	File A	3-digit ZIP areas	20% 15% 5%	53 tables containing 900 cells	1
	File B	5 digit ZIP areas (in SMSA's)			12
	File C	Block Groups or Enumeration Districts, Tracts, MCD's/CCD's in Non-tracted Areas			205
6th Count	Pop.	State, SMSA, Metro. County, City 50,000+, Central City	20% 15% 5%	92 tables containing 150,000 cells	192
	Hous.	State, SMSA, Metro County, Non-Metro. County 50,000+, City 50,000+, Central City		348 tables containing 110,000 cells	209

*The additional number of data cells in File C are not tabulated for places. Tabulations for places have the same number of data cells as Files A and B.
**Assumes 556 or 800 bpi. Fewer tapes would be required at 1600 bpi.

Figure 5.3 Number of 1970 Census Summary Tapes by State and Count

(Assuming 556 or 800 CPI)

Area	1st Count		2nd Count		3rd Count	4th Count						5th Count*	6th Count	
						Population			Housing					
	File A	File B	File A	File B		File A	File B	File C	File A	File B	File C	File C	Pop.	Hsg.
United States	108	58	108	155	240	144	125	95	203	196	108	205	192	209
Alabama	2	1	2	2	3	2	2	2	3	3	2	3	4	5
Alaska	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Arizona	1	1	1	1	3	2	1	1	2	1	1	2	2	2
Arkansas	2	1	1	4	2	1	4	2	1	7	2	4	3	3
California	8	1	10	4	23	15	3	4	23	4	5	16	14	14
Colorado	1	1	2	2	4	2	1	1	3	2	2	3	3	3
Connecticut	1	1	2	2	4	3	1	2	4	1	2	3	5	5
Delaware	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Dist. of Columbia	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Florida	3	1	3	3	11	4	2	3	7	2	3	6	5	6
Georgia	2	1	2	3	3	2	3	3	3	4	3	4	4	4
Hawaii	1	1	1	1	1	1	1	1	2	1	1	1	1	1
Idaho	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Illinois	5	2	5	6	11	7	5	3	10	8	4	10	7	7
Indiana	3	1	2	4	5	3	3	3	4	5	3	5	6	7
Iowa	2	2	1	5	3	1	4	2	2	8	2	5	3	4
Kansas	2	1	1	5	4	1	4	2	2	8	2	4	2	3
Kentucky	2	1	1	3	2	1	2	2	2	3	2	3	3	4
Louisiana	2	1	2	2	4	2	2	2	3	3	2	4	4	4
Maine	1	1	1	2	1	1	2	1	1	3	1	2	2	2
Maryland	2	1	2	2	4	4	1	1	5	2	2	4	3	3
Massachusetts	2	1	3	3	8	4	2	2	6	2	3	5	6	6
Michigan	4	1	4	5	9	6	5	3	10	8	3	8	7	8
Minnesota	2	2	2	8	4	2	6	2	4	12	2	6	3	3
Mississippi	1	1	1	1	1	1	2	2	1	2	2	2	2	2
Missouri	3	2	2	5	4	3	4	2	4	6	3	6	4	4
Montana	1	1	1	2	1	1	1	1	1	2	1	1	2	2
Nebraska	1	1	1	4	2	1	4	1	1	7	2	3	2	2
Nevada	1	1	1	1	1	1	1	1	1	1	1	1	2	2
New Hampshire	1	1	1	2	1	1	1	1	1	2	1	1	2	2
New Jersey	3	1	4	3	10	6	2	2	8	3	3	5	6	6
New Mexico	1	1	1	1	1	1	1	1	1	1	1	1	1	2
New York	6	1	9	5	21	14	3	3	20	5	4	14	7	8
North Carolina	2	1	2	4	3	3	4	2	4	5	2	5	4	7
North Dakota	1	1	1	1	1	1	1	1	1	2	1	1	1	2
Ohio	5	2	5	6	11	7	5	4	10	8	4	9	9	10
Oklahoma	2	1	2	2	3	2	2	2	3	2	2	3	3	3
Oregon	1	1	1	2	4	2	1	1	2	2	1	2	2	3
Pennsylvania	5	2	6	9	13	8	7	3	12	12	4	10	7	9
Rhode Island	1	1	1	1	2	1	1	1	2	1	1	1	2	2
South Carolina	1	1	1	2	3	2	2	2	2	2	2	3	3	3
South Dakota	1	1	1	4	1	1	4	1	1	7	1	3	1	1
Tennessee	2	1	1	3	5	2	2	2	3	3	2	4	[illegible]	3
Texas	5	1	5	6	15	7	4	6	10	6	6	10	1[illegible]	12
Utah	1	1	1	1	2	1	1	1	1	1	1	1	2	2
Vermont	1	1	0	1	1	0	1	1	0	2	1	1	1	1
Virginia	2	1	2	3	5	3	2	2	4	3	3	4	7	6
Washington	2	1	2	2	6	2	2	1	3	3	2	4	3	3
West Virginia	1	1	1	2	1	1	1	1	1	2	1	2	3	3
Wisonsin	2	1	2	6	6	3	5	2	4	9	2	5	5	5
Wyoming	1	1	0	1	1	0	1	1	0	1	1	1	1	1
Puerto Rico	2	1	1	4	2	1	2	1	1	5	2	4	3	3

*File A of the 5th Count consists of 1 tape for all 3-digit ZIP code areas in the U.S., and file B is composed of 12 tapes for 5-digit areas within SMSA's.

an STPC which has already aggregated State totals. The number of reels is based on reproduction of files at 556 or 800 characters per inch (cpi). Fewer reels should be required if recorded at 1600 cpi.

2. Data Access Descriptions Describing Each Count - The most readily available descriptions of the geographic areas and specific subjects in each summary tape count are found in six Data Access Descriptions: No. 13, First Count; No. 26, Second Count; No. 25, Third Count; No. 22, Fourth Count; No. 36, Fifth Count; and No. 30, Sixth Count. For many practical purposes these DAD's may be used in lieu of technical documentation, as discussed below and illustrated on pages 62 and 64.

D. Subject Report Summary Tapes

While not specifically designated as "counts," data for the detailed subject reports were prepared by way of summary tapes, most of which have been converted into a public-use form. These files are listed in figure 5.4 and have subject content corresponding fairly closely to the data provided at the U.S. level in the published reports of the same title. Except where otherwise noted in the figure, data summaries are included for the U.S., its regions and divisions, and States. Those marked with an asterisk also contain limited data for selected SMSA's or other areas. The number of tapes for the U.S. appears in parentheses.

E. Supplementary Information Required to Process Summary Tapes

Unlike printed reports, which include relevant background information, summary tapes must be used in conjunction with several types of supplementary material.

1. Technical Documentation - While data numbers in reports are identified by verbal headings and stubs, corresponding numbers on tape are identified only by geographic codes and the position of the data item on the record. Technical documentation for each tape fills the gap by providing the appropriate labels for each data cell in terms of position within the record. While the Data Access Descriptions mentioned earlier do describe the contents of each table, they do not present the position information, record size, description of geographic code fields, etc., necessary for actual programming with the tapes. A typical page from summary tape documentation is presented in figure 5.5. Compare this outline form representation of a data table to figure 5.6, a computer printout of data from these tables using a DAUList program discussed in section E.5 below. Location of data cells on the computerized record can be worked out from the boxes in the upper right-hand corner of figure 5.5, which indicate the block, and subblock, and character location of the first data cell on the page. The same data tables are also illustrated in figure 5.7 in terms of their representation in a Data Access Description and in the Index to 1970 Census Summary Tapes.

Figure 5.4 Subject Report Summary Tapes

POPULATION FILES

PC(2)-1A National Origin and Language* (27)
PC(2)-1B Negro Population* (22)
PC(2)-1D Persons of Spanish Surname* (3)
PC(2)-2A State of Birth* (3)
PC(2)-2B Mobility for States and the Nation (8)
PC(2)-2C Mobility for Metropolitan Areas* (10)
PC(2)-2D Lifetime and Recent Migration (2)
PC(2)-2E Migration Between State Economic Areas (SEA's only) (1)
PC(2)-3A Women by Number of Children Ever Born* (14)
PC(2)-4A Family Composition (12)
PC(2)-4B Persons by Family Characteristics (12)
PC(2)-4C Marital Status (5)
PC(2)-4D Age at First Marriage (2)
PC(2)-4E Persons in Institutions and Other Group Quarters* (34)
PC(2)-5B Educational Attainment (12)
PC(2)-6A Employment Status and Work Experience (8)
PC(2)-6B Persons Not Employed (14)
PC(2)-6C Persons with Work Disability (7)
PC(2)-6E Veterans (13)
PC(2)-7C Occupation by Industry (17)
PC(2)-7E Occupation and Residence in 1965 (6)
PC(2)-8A Sources and Structure of Family Income (16)
PC(2)-8B Earnings by Occupation and Education (15)
PC(2)-8C Income of the Farm-Related Population (9)
PC(2)-9B Low-Income Areas in Large Cities (50 Largest Cities Only) (3)
PC(2)-10A Americans Living Abroad (Overseas areas only) (1)
PC(2)-10B State Economic Areas (SEA's only) (5)

HOUSING FILES

HC(7)-1 Housing Characteristics by Household Composition (7)
HC(7)-2 Housing of Senior Citizens* (9)
HC(7)-3 Space Utilization of the Housing Inventory (10)
HC(7)-4 Structural Characteristics of the Housing Inventory (12)
HC(7)-6 Mobile Homes (26)
HC(7)-7 Geographic Aspects of the Housing Inventory (2)
HC(7)-9 Housing of Selected Racial Groups* (17)

*These files contain limited data for selected SMSA's or other areas, in addition to the U.S., region, division, and State summaries provided in almost all files.

Figure 5.5 **Sample of Summary Tape Documentation (5th Count)**

2 / 11 49
No. of
Data Items
(Suppression Indicator)

14. POPULATION 25 YEARS OLD AND OVER BY YEARS OF SCHOOL COMPLETED AND AGE 21 (SO)

Count of Persons 25 years Old and Over

By: Age (3) By: Years of School Completed (7)

25-44 years old:
No school years completed (includes nursery and kindergarten)
Elementary:
1-7 years
8 years
High School:
1-3 years
4 years
College:
1-3 years
4 years or more

45-54 years old:
Repeat Years of School Completed (7)

55 years old and over:
Repeat Years of School Completed (7)

15. POPULATION 5 YEARS OLD AND OVER BY RESIDENCE IN 1965 AND RACE (15%) 36 (S1)

Count of Persons 5 Years Old and Over

By: Race (4) By: Residence in 1965 (9)

Total:
Same house
Different house:
Same county
Different county:
Same State
Different State:
Northeast
North Central
South
West
Abroad
Moved, residence in 1965 not reported

White:
Repeat Residence in 1965 (9)

Negro:
Repeat Residence in 1965 (9)

Spanish American:
Repeat Residence in 1965 (9)

Figure 5.6 Example of Summary Tape Data Displayed by a DAUList Program

TABLE 14
COUNT OF PERSONS 25 YEARS OLD AND OVER BY AGE BY YEARS OF SCHOOL COMPLETED

	25-44	45-54	55 AND OVER
NO SCHOOL YEARS COMPLETED	0	0	20
ELEMENTARY			
1-7 YEARS	57	58	203
8 YEARS	34	31	62
HIGH SCHOOL			
1-3 YEARS	109	55	81
4 YEARS	69	10	8
COLLEGE			
1-3 YEARS	26	0	13
4 YEARS	0	0	8

TABLE 15
COUNT OF PERSONS 5 YEARS OLD AND OVER BY RACE BY RESIDENCE IN 1965

	TOTAL	WHITE	NEGRO	SPANISH AMERICAN
SAME HOUSE	605	391	214	(S)
DIFFERENT HOUSE				
SAME COUNTY	477	337	140	(S)
DIFFERENT COUNTY				
SAME STATE	163	163	0	(S)
DIFFERENT STATE				
NORTHEAST	46	46	0	(S)
NORTH CENTRAL	0	0	0	(S)
SOUTH	56	52	4	(S)
WEST	0	0	0	(S)
ABROAD	6	6	0	(S)
MOVED, RESIDENCE 1965 NOT RPTD	109	80	29	(S)

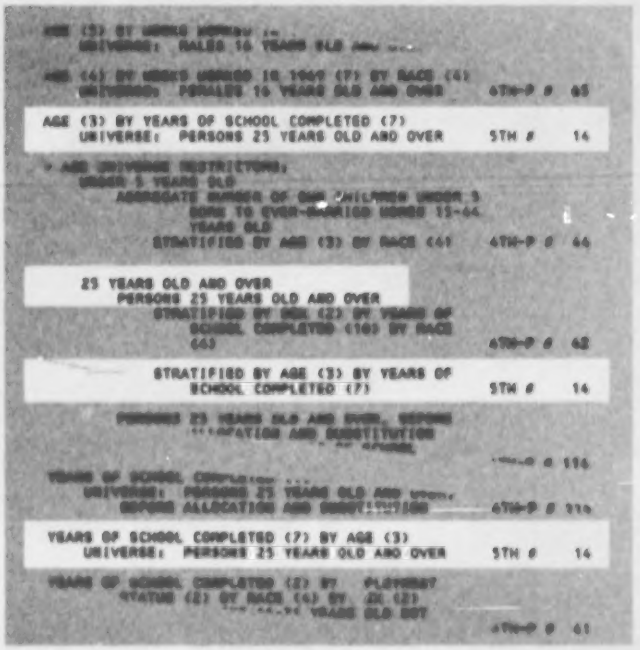
S indicates that data were suppressed to avoid the possibility of disclosing information about an individual, or, in summary tapes, where certain universes, e.g. Spanish American, were zero.

Figure 5.7 Descriptions of Summary Tape Data

in a Data Access Description (#36, Fifth Count)

	Population summaries	Stnd. error factor	No. of data items
14.	Years of school completed, by sex, of population 25 years old and over.....	1.1	21
	No school years completed		
	Elementary:		
	1-7 years completed		
	8 years completed		
	High school:		
	1-3 years		
	4 years or more		
	College:		
	1-3 years		
	4 years or more		
	Age:		
	25-44		
	45-54		
	55 and over		
15.	Residence in 1965, by race, of population 5 years old and over (15%).....	2.2	36
	Same house		
	Different house:		
	Same county		
	Different county:		
	Same State		
	Different State:		
	Northeast		
	North Central		
	South		
	West		
	Abroad		
	Moved, 1965 residence not reported		
	Race:		
	Total		
	White		
	Negro		
	Spanish American*		

in the Index to 1970 Census Summary Tapes



AGE (3) BY YEARS OF SCHOOL COMPLETED (7)
UNIVERSE: PERSONS 25 YEARS OLD AND OVER 5TH # 14

AGE (4) BY WEEKS WORKED IN 1969 (7) BY RACE (4)
UNIVERSE: FEMALES 16 YEARS OLD AND OVER 4TH-P # 65

* AGE UNIVERSE RESTRICTORS:
UNDER 5 YEARS OLD
AGGREGATE NUMBER OF OWN CHILDREN UNDER 5 BORN TO EVER-MARRIED WOMEN 15-44 YEARS OLD
STRATIFIED BY AGE (3) BY RACE (4) 4TH-P # 44

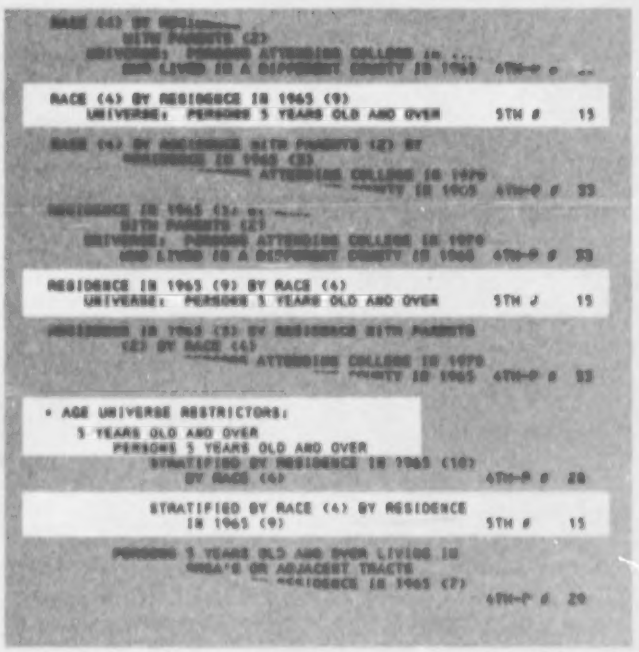
25 YEARS OLD AND OVER
PERSONS 25 YEARS OLD AND OVER
STRATIFIED BY SEX (2) BY YEARS OF SCHOOL COMPLETED (16) BY RACE (4) 4TH-P # 42

STRATIFIED BY AGE (3) BY YEARS OF SCHOOL COMPLETED (7) 5TH # 14

PERSONS 25 YEARS OLD AND OVER, BEFORE ALLOCATION AND SUBSTITUTION
4TH-P # 114

YEARS OF SCHOOL COMPLETED (7) BY AGE (3)
UNIVERSE: PERSONS 25 YEARS OLD AND OVER 5TH # 14

YEARS OF SCHOOL COMPLETED (7) BY FARMER STATUS (2) BY RACE (4) BY SEX (2)
4TH-P # 41



RACE (4) BY RESIDENCE IN 1965 (9)
UNIVERSE: PERSONS 5 YEARS OLD AND OVER 5TH # 15

RACE (4) BY RESIDENCE WITH PARENTS (2) BY RESIDENCE IN 1965 (3)
4TH-P # 33

RESIDENCE IN 1965 (3) BY RACE (4) BY RESIDENCE WITH PARENTS (2)
UNIVERSE: PERSONS ATTENDING COLLEGE IN 1970 AND LIVED IN A DIFFERENT COUNTY IN 1965 4TH-P # 33

RESIDENCE IN 1965 (9) BY RACE (4)
UNIVERSE: PERSONS 5 YEARS OLD AND OVER 5TH # 15

RESIDENCE IN 1965 (3) BY RESIDENCE WITH PARENTS (2) BY RACE (4)
4TH-P # 33

* AGE UNIVERSE RESTRICTORS:
5 YEARS OLD AND OVER
PERSONS 5 YEARS OLD AND OVER
STRATIFIED BY RESIDENCE IN 1965 (10) BY RACE (4) 4TH-P # 20

STRATIFIED BY RACE (4) BY RESIDENCE IN 1965 (9) 5TH # 15

PERSONS 5 YEARS OLD AND OVER LIVING IN SMSA'S OR ADJACENT TRACTS
RESIDENCE IN 1965 (7)
4TH-P # 29

2. Geographic Reference Tools - A "record" on these summary tapes generally contains the data for a specific geographic area identified on the record by numeric codes rather than names. A user will normally require an additional reference to associate the codes with named areas. One such reference in computerized form is the Master Enumeration District List (MEDList), a hierarchical code list relating each State, county, MCD, and place by name to all relevant geographic codes. Components within each unit are listed down to the basic enumeration districts or block groups. 1970 population and housing counts are given for each geographic unit. The MEDList is contained on two reels of tape. It is available also on microfilm or paper copy. Geographic codes are also available in the Geographic Identification Code Scheme, PHC(R)-3, published in four parts, one for each census region. Since State, SMSA, and county codes are according to a Federal standard, these code schemes are also available in a variety of other publications.

   Maps are also required for the definition of statistical areas. The hardiest source is normally the report which corresponds to that tape. These sources, as well as unpublished maps necessary for defining enumeration districts, are discussed in Data Access Description No. 33.

3. Concept Definitions - The technical documentation, unlike the printed reports, does not contain concept definitions. The 1970 Census Users' Guide, the corresponding data reports, or the procedural history, as listed in chapter 2 (page 8), may be used as sources.

4. Algorithms for Computing Standard Errors - The technical documentation of sample summary tapes does not contain a discussion of accuracy of the data corresponding to Appendix C of PC(1), HC(1), or PHC(1) reports. Those discussions, or the material in chapter 7, should be referenced by the user of Fourth Count, Sixth Count, and subject report tape data. Users of the Fifth Count should refer to the sampling variability discussions in Data Access Description No. 36. These discussions provide algorithms for computing standard errors and confidence intervals, as stressed in chapter 7.

5. Programs for Retrieving Summary Tape Data - The Census Bureau prepared programs in the DAUList series to display data from all of the counts except the Sixth Count. Figure 5.6 illustrates a DAUList printout. Each program is written in FORTRAN IV or COBOL so that it is relatively straightforward to modify for use on a system other than the IBM 360/40 for which it was written. These programs make selective retrieval of specific tables for specific areas, but they do not generate derived or comparative statistics or do anything else except to easily provide printouts of the data on tape. Since the program tape also provides labels for the data in computerized form, it may also be of use to programmers developing more specialized programs. The DAUList programs (one for each count) may be obtained on one reel of tape, available from the Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233.

Data users outside the Bureau of the Census have developed other programs which process the summary tapes, often in more sophisticated ways. A listing of those programs known to be available is maintained by the Data User Services Division in its "Computer Program Interchange." The list is available as Census User Bulletin No. 12, and is updated through articles in Data User News.

6. Finding Tables in Summary Tape Documentation - The Index to 1970 Census Summary Tapes provides an effective method for locating tables in summary tape documentation. Its key to geographic areas provides a complete comparative listing of areas summarized in each of the Counts. There are three alphabetically organized sections of the Index: its cross-reference guide (an index to the index), the index to Counts 1 through 5, and the separate Sixth Count index which actually takes up over half of the publication due to the complexity of Sixth Count tables. The index does not cover subject report tapes.

   As is shown in figure 5.7, the Index to 1970 Census Summary Tapes describes tables in terms of their variables and indicates the number of categories of each, but does not list the specific categories. Tape documentation or a DAD is still required for this purpose.

F. Historical Summary Data on Tape

Summary tapes from the 1960 census are no longer available from the Census Bureau. Several series were created, however, and these may be available from certain Summary Tape Processing Centers. Data from those tapes have been retained by the Census Bureau in publications or unpublished printouts discussed in chapter 4 and DAD No. 35. The Bureau has maintained its capacity to produce special tabulations from 1960 sample data. Public use samples of 1960 data are also available (see Section III).

Selected data items from the 1950 and 1960 censuses were included in the 1952 and 1962 County and City Data Books which are also available on tape. Data for States, counties, metropolitan areas, and cities of 25,000 or more are included.

G. Tape Acquisition Information

Summary tapes, and other computerized products of the Census Bureau, are sold through the Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233. As of 1976, tapes are sold at $80 per reel, prepaid, documentation included. Technical options available for all files include 7-track, 556 characters per inch (cpi, or bpi for bytes per inch), BCD; 7-track, 800 cpi, BCD; and 9-track, 800 and 1600 cpi, EBCDIC. 1970 census summary tapes and public use samples (see Section III) are also available in the form of 9-tract, 800 cpi, ASCII. These options are subject to change. Technical documentation for individual summary tapes series is sold by the Customer Services Branch for $3 each. Documentation for the First through Fourth Counts are also contained in the 1970 Census Users' Guide, Part II (see page 111).

Section II: SPECIAL TABULATIONS

The standard publications and summary tapes produced from the 1970 census were designed to include what was anticipated to be the most generally useful data. Since it was obviously impossible to meet all conceivable data needs within the budget for the 1970 census, the Bureau developed a capability to prepare additional "special" tabulations whenever a prospective user was willing to pay for the necessary programming, computer time and related administrative costs. This type of service can be performed only at the Census Bureau, since it involves retabulation of the Bureau's confidential basic record tapes. The data provided to the customer are in the form of tabulations which have been edited to exclude any information which could disclose information about any individual. The output may be on printouts, computer tapes or computer-output microfilm.

A. Reasons for Obtaining a Special Tabulation

1. Unique Data for Standard Tabulation Areas - Many special tabulations are designed to provide cross-tabulations of variables not otherwise available, for example, family income by age of head for specified census tracts. Others involve derived variables not normally appearing in census tabulations. One major special tabulation cited in subsection C below involved tabulations of household income, an important variable missing from most census publications. Special tabulations are also required to provide detailed data about particular subgroups of the population, such as recent Latin American immigrants, for example.

2. Data for Unique Areas - Special tabulations may be required to provide data for small areas such as voting precincts or traffic zones, which differ from standard census areas but which can be defined or approximated in terms of census blocks or enumeration districts. Population counts and selected data for such areas could be generated by the user by aggregating component areas from public-use summary tapes, but more extensive data is frequently required, necessitating a special tabulation.

3. Data in a Unique Format - This type of tabulation can frequently be done by the user manipulating public-use summary tapes and does not require a special tabulation of confidential basic records.

B. Availability and Cost

Costs of special tabulations vary widely depending on the quantity of data to be processed, complexity of programming required, and so forth. A simple set of tables for census tracts in a small SMSA might cost $1,000 or less. Special tabulations for the entire U.S. rarely cost less than $50,000, placing them well out of the range of many analysts or user organizations.

Special tabulations are arranged through the Customer Services Branch,

Data User Services Division. Cost estimates for special tabulations are provided without charge; the request should be quite specific in terms of proposed table content, design, and areas to be tabulated.

C. Special Files Available as a Result of Special Tabulations

Once a special tabulation is created, it can be made available to any user interested in the data. After a period of usually six months a special tab will be made available merely for the cost of reproduction (currently $80 per tape for computerized data).

All special tabulations are referenced in the Bureau of the Census Catalog (in Part II), and some have been described in Data User News. Some of the more significant special tabs from the 1970 census are described below. More information is available from the Customer Services Branch.

- Household Income - Tenure (2 categories) by race of head (3) by age of head (2) by household size (5) by household income (8) - for the United States, regions, divisions, States, SMSA's, counties and places of 25,000+ inhabitants. (2 reels)

- Affirmative Action Data - Labor force members and their average earnings by occupation (101 categories) by race (7) by sex (2) - for States, counties, and places and New England towns of 50,000+ inhabitants. (14 reels)

- Commuting Data - Characteristics of employed persons by place-of-work or place-of-residence, with an origin-destination matrix for commuters - in terms of locally defined traffic zones in 121 urbanized areas.

- Detailed Industry-Occupation Matrix - Employed persons 16+ by occupation (440) by industry (227) by class of worker (6) by sex (2) - for the U.S., SMSA's of 250,000+inhab., and selected other areas.

- Detailed Race (6 categories: white, black, Amer. Indian, Japanese, Chinese, other) by age (18) by sex (2) - for the U.S., States and counties (1 reel) and for census tracts in 8 SMSA's (1 reel).

- School District Data - All 5th Count tables for 1974-75 school districts with 300+ students. Includes a file showing correspondence between 1970 census areas and 1974-75 school districts. (3-6 reels)

Section III: 1970 CENSUS PUBLIC USE SAMPLES

Up to this point all data products referred to have involved summary data about geographic areas and numbers of people or housing units in particular categories. We have also noted that the individual records of specific people are completely confidential. Samples of individual records are, however, made available in a form useful for statistical purposes, but which makes it virtually impossible to identify a specific individual. These are the Public Use Samples of Basic Records from the 1970 Census (sometimes abbreviated PUS). An illustration of the distinction between summary data and public use samples (also termed microdata) is provided in figure 5.8.

Figure 5.8 Comparison of Summary Data and Data on Public Use Samples

SUMMARY DATA

- Basic unit is an identified geographic area
- Data has been aggregated across the people in the area
- Available for small areas

City	Total Pop.	Negro Pop.	Housing Units	Renters	RENT		
					Under $60	$60 - 100	$100 - 150
Alexandria, Va.	110,938	15,644	44,426	31,447	858	3,967	13,282
Fairfax, Va.	21,970	370	6,261	2,492	37	190	1,766
Vienna, Va.	17,152	593	4,494	822	11	29	238

Data on PUBLIC USE SAMPLES

- Basic unit is an unidentified household and its persons
- Unaggregated data to be summarized by the user
- Allows detailed study of relationships among variables
- Not available for small areas

	State of Residence	Urban/Rural	Persons in household	Telephone	Plumbing	Rent	Automobiles	Household type	
Household #1	Virginia*	Urban	3	Yes	Yes	$125	2	h-w family	

	Relationship	Sex	Age	Race	Place of Birth	Years of School	Occupation	Earnings	
Person a	Husband	M	37	W	Kansas	12	Plumber	$13,000	
Person b	Wife	F	35	W	Virginia	12			
Person c	Child	M	6	W	Virginia	1			

Household #2	Virginia	Rural	1	Yes	No	$30	0	Primary Indiv.	
Person a	Primary Indiv.	F	68	N	Alabama	6	Service	$1,400	
Household #3	Virginia	Urban	6	Yes	Yes	$205	2	h-w family	

etc.

*Public Use Sample tapes do not actually contain alphabetic information, but represent the characteristics in the form of numeric codes.

A. Protection of Confidentiality

Sample records made available for public use contain no names, addresses, or phone numbers. Detail on place of residence, place of work, and high incomes is limited to reduce the likelihood that an individual is identifiable. No geographic area of less than 250,000 population can be identified on sample records. Finally, only a small percentage of the population is included in public use samples, drastically limiting the chance that a given individual is present, much less identifiable, in such a microdata file.

B. "Do-It-Yourself" Special Tabulations

Public-use microdata files essentially provide a do-it-yourself special tabulation capability. Subject to the limitations of sample size and geographic identification, it is possible for the user to construct a seemingly infinite variety of tabulations interrelating any set of desired variables. The 1970 public use samples provide the full richness of detail recorded in the census. The user has the same kind of freedom in manipulating the data as he or she would have had if the same information had been collected in his or her own sample survey, but with the precision of census data collection techniques and sample sizes quite large relative to what might have been feasible in an independent sample survey.

C. Areas Identified

As stated above, three different options of geographic identification are available as illustrated in figure 5.9. To protect confidentiality, no area is identified on public use samples which has a population of less than 250,000.

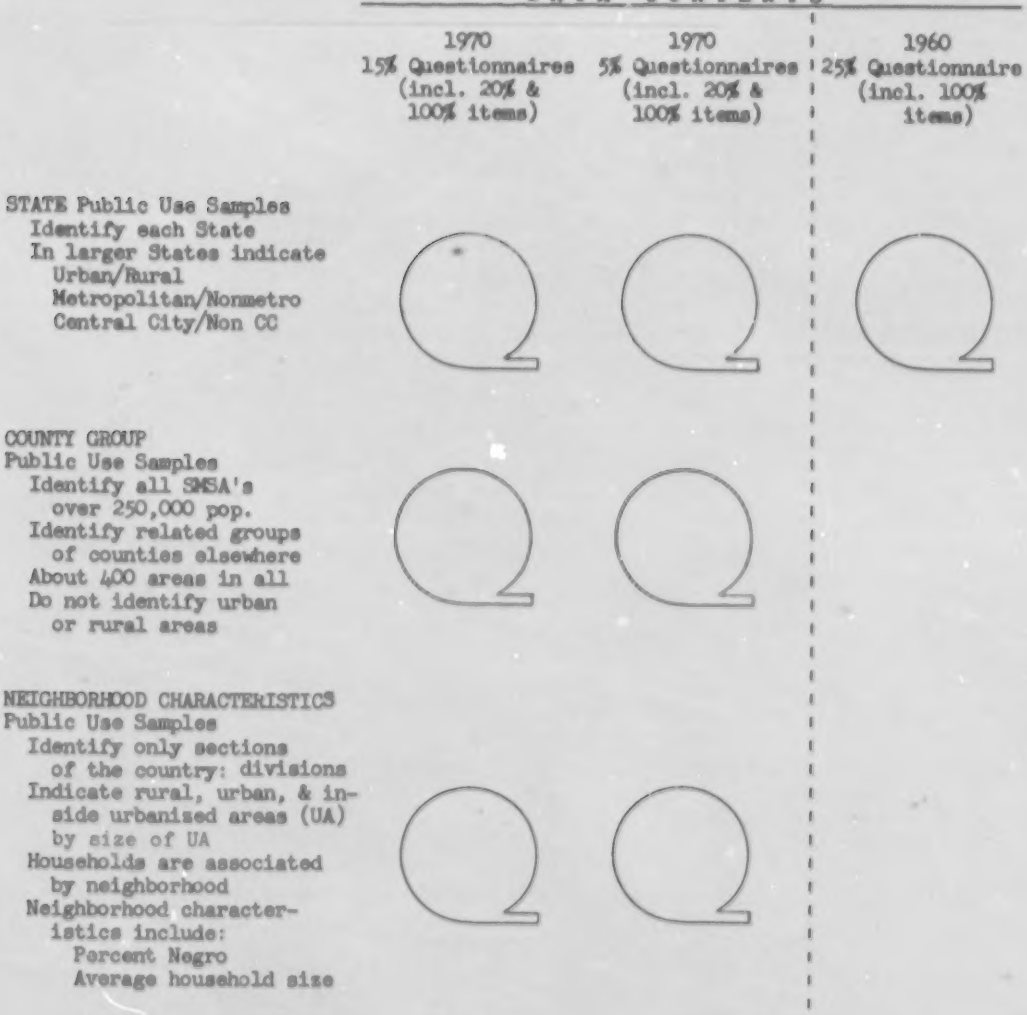
D. Subject Content

With only minor exceptions, public use samples contain the full range of subject information collected in the 1970 census: all 440 categories into which occupation is classified, age by single years and quarter-years, income by $100 intervals up to $50,000, and so forth. Since the samples provide data for all persons living in a sampled household it is possible to study all kinds of interrelations of characteristics among household members, for example, income and education of husbands and wives. Two versions of data content are available: one corresponding to the 15% questionnaire, the other corresponding to the 5% questionnaire (see page 6).

E. Sample Size

Processing a sample of census records is certainly less expensive for a user than having the Census Bureau process them all, and the smaller the sample the less expensive it should be. Public use samples are available in three basic sample sizes: one-in-a-hundred, one-in-a-thousand, and one-in-ten-thousand of all households. One must note that reliability suffers as sample size is reduced, so the choice of sample size must

Figure 5.9 Geographic and Content Options on 1960 and 1970 Public Use Samples


DATA CONTENTS
1970 15% Questionnaires (incl. 20% & 100% items)
1970 5% Questionnaires (incl. 20% & 100% items)
1960 25% Questionnaire (incl. 100% items)
STATE Public Use Samples
Identify each State
In larger States indicate
Urban/Rural
Metropolitan/Nonmetro
Central City/Non CC
COUNTY GROUP
Public Use Samples
Identify all SMSA's over 250,000 pop.
Identify related groups of counties elsewhere
About 400 areas in all
Do not identify urban or rural areas
NEIGHBORHOOD CHARACTERISTICS
Public Use Samples
Identify only sections of the country: divisions
Indicate rural, urban, & inside urbanized areas (UA) by size of UA
Households are associated by neighborhood
Neighborhood characteristics include:
Percent Negro
Average household size

Each tape symbol represents a separate one in-a-hundred public use sample (30-33 tapes at 800 bpi), from which one-in-a-thousand and one-in-ten-thousand subsamples (3 tapes and one tape respectively) are also available.

represent a balance between the level of precision desired and the resources available. The larger the sample is the more reliable will be data estimated from it. Using tables provided in public use sample documentation one can estimate how much chance error affects any number desired, given a particular sample size. Users of public use samples for State or SMSA estimates normally use a one-percent sample, while users concerned only with national figures can frequently get by with a 1-in-1,000 (0.1%) sample. But even national users may need a one-percent sample if they contemplate extremely detailed tabulations or are concerned with very small segments of the population. A 1-in-10,000 sample is useful for test or demonstration purposes. If a very large sample is needed one may make use of the fact that six mutually exclusive 1-in-100 samples are available, as illustrated in figure 5.9, and they can be used in combination to the extent that differences in subject matter or geographic identification do not limit the choice (e.g., a 2-percent sample can be created for an SMSA, by using the 5-percent and 15-percent 1-in-100 files together).

F. Potential Users

Public use samples will be useful to researchers who meet three basic requirements and have one or more of the types of research interests described below.

1. Requirements

   a. Interest in areas definable from public use samples.

   b. No need for data for very small populations or categories (sample size may be too small for reliability.)

   c. Access to programming and computer time needed to process the samples.

2. Research Interests

   a. Interest in interrelationships among census variables not shown in existing census tabulations; or

   b. Interest in characteristics of certain uniquely defined populations, such as unemployed homeowners or unmarried roommates of opposite sex; or

   c. Study of relationships between neighborhood summary characteristics and individual characteristics (e.g., comparing families living in "ghettos" to families in other neighborhoods); or

   d. Work with life-process or other models for which microdata are essential.

G. Corresponding Microdata from Earlier Censuses

A 1-in-100 sample has been created from 1960 census basic records in a form which is nearly identical with the 1970 public use samples with State identification. Given the fact that most subject items in the 1970 census were the same as 1960 counterparts, these samples represent a rich resource for 1960-1970 comparisons.

Creation of public use samples from the 1940 and 1950 censuses is being actively discussed, but such a project would take several years even after it gets started. More information can be obtained from the Data User Services Division.

H. Publications Describing Public Use Samples

Public Use Samples of Basic Records from the 1970 Census: Description and Technical Documentation, available for $3 from the Customer Services Branch, Data User Services Division, is the most complete reference available on public use samples. All data items are precisely described in terms of their specific categories and in terms of formal concept definitions. A practically oriented and easy-to-understand chapter on sampling variability is one of the special features of the document. A wall-sized map included with the documentation portrays the various county groups identified on the County Group Public Use Samples.

Three supplements have been issued which present important corrections or additions to the documentation. Any user who has the basic documentation but does not have all three supplements should request them from the Customer Services Branch.

A corresponding volume has been issued on the 1960 public use samples. A more abbreviated description of the 1960 and 1970 census public use samples is contained in Data Access Description No. 24. The DAD provides titles for each data item rather than listing each category. A small scale map and explanation of the county group scheme for county group public use samples is also available.

I. Software for Public Use Samples

The public use samples employ a hierarchical file structure which cannot be directly handled by most common data processing software (e.g., BMD, DATATEXT, most versions of SPSS). In order to use these packages, users have to create extract files with the needed household data repeated with each person record. If the file size can be substantially reduced in the process, this intermediate step may not be undesirable. Otherwise, users must create their own software or use one of the existing packages capable of handling the hierarchical public use sample file structure. Two are cited below.

The COCENTS system, created by the Census Bureau in COBOL is a file-independent frequency-table generator which has been shown to be very economical in public use sample processing. An outside user has developed

the SPSS-Override System which adds to the widely available SPSS system the capacity to handle the public use sample file structure without any reformatting. The COCENTS and the SPSS-Override System are described more fully in the April 1975 issue of Data User News.

J. Other Microdata Files

A few special purpose public use samples have been created, one oriented toward the study of childspacing and current fertility, others identifying geographic units not on the original County Group scheme. (for example, subcity areas in New York and Chicago, and metropolitan/nonmetropolitan identification for large States and State groups) The 1970 Census Employment Survey, from which the PHC(3) reports were developed, also produced microdata files for low-income areas in selected SMSA's, for Appalachia, and for two other areas.

Microdata or unit records are also available from the Current Population Survey, the Annual Housing Survey, and a few other surveys, as discussed in Chapter 8.

CHAPTER 6

UNPUBLISHED DATA ON MICROFILM OR PRINTOUTS

A. Microfilm for MCD's and CCD's

Data published for MCD's and CCD's are limited to 16 complete-count items in PC(1)-B, Table 33. While extensive tabulations for MCD's and CCD's are available from the Fourth Count summary tapes, the only source of further data in eye-readable form is on microfilm developed from the Fifth Count. The data contents, number of rolls, and ordering information are given in Data Access Description No. 36.

B. MEDList Microfilm

The Master Enumeration District List (MEDList) mentioned in chapter 5 (page 65) lists States, counties, MCD's, CCD's, enumeration districts, and block groups; their codes; and their population and housing counts. The MEDList is available on microfilm, 3 rolls for the entire U.S.

C. First Count Microfilm

Data from the First Count summary tapes, including enumeration district and block group summaries, are also displayed on microfilm, one or more reels per State. These data are not particularly easy to use since there is no alphabetic labelling on the film frames and technical documentation is required to identify the contents of the rows and columns of numbers.

D. Non-Metropolitan Census Tract Tables

Tables corresponding to those in PHC(1) reports for tracts in SMSA's were prepared but not published for tracts outside SMSA's. Photocopies are available for the cost of reproduction.

E. Other Unpublished Data

Several special tabulations have generated microform or hard-copy output. Lists of such special tabulations are available on request. New unpublished tabulations are regularly listed in the Bureau of the Census Catalog, Part II. State profiles, congressional district profiles, and central-city-SMSA profiles, described in chapter 4 (page 49) also are considered unpublished data.

F. How to Obtain Unpublished Data

Unpublished data are made available for the cost of reproduction through the Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233.

CHAPTER 7

CAVEATS AND LIMITATIONS OF 1970 CENSUS DATA

Section I: CORRECTION NOTES

A. Population and Housing Counts

After the publication of the softbound 1970 census reports some errors were found related to geographic misclassification (that is, the assignment of particular households to an incorrect jurisdiction). Errata sheets were issued when appropriate.

1. Location of Errata

Some PC(1)-A and HC(1)-A softbound reports carried correction notes facing Table 1. More comprehensive lists were prepared by the time of the publication of the hardbound PC(1) and HC(1) volumes, so those are sources to use for corrected population counts for counties, county subdivisions, cities, and other places. If the hardbound volumes are not available, copies of correction notes are available on request from the Census Bureau. Census tract reports contain correction notes preceding Table P-1. Correction notes for HC(3) Block Statistics reports for particular urbanized areas are available on request from the Housing Division, Bureau of the Census.

Corrections are for population counts -- it is not possible to determine the effect on statistical tables showing characteristics.

2. Extent of Corrections

The percentage of cities, towns and counties affected by correction notes is large enough to make it worthwhile to check for errata whenever exact population or housing counts are needed.

3. Consolidated Source of Corrected Counts

Two sources provide population counts for all areas, with corrections applied where appropriate. With these sources it is not necessary to cross reference between correction notes and other tables for areas not corrected.

The first is the County and City Data Book 1972, which provides in its Appendix B population and housing counts for all counties, and for all places of 2,500 inhabitants or more even though the main part of the volume does not provide data for cities under 25,000 population.

The second source is reports in the P-25 Current Population Reports series (Nos. 546 to 595) which provide 1973 population and 1972 per capita income estimates for all counties, incorporated places and active minor civil divisions, along with corrected 1970 population counts for each area. The same data are available on tape as the 1973 Population Estimates File.

B. Rural Farm/Nonfarm Misclassification

A misclassification exists in the statistics on farm/nonfarm residence published in two series of 1970 census reports and on the Fourth Count summary tapes. The misclassification affects primarily those tables providing rural farm and rural nonfarm data in PC(1)-C and HC(1)-B, and the Fourth Count computer tapes. Since the errors are solely in the classification between rural farm and rural nonfarm, and are thus compensating, the data for the rural population as a whole or the total population are not affected.

1. Sources for Corrected Data

Data in PC(1)-D, the subject reports, the Fifth Count and Sixth Count computer tapes, and in the public use samples all reflect correction of the problem. Corrected data for counties are available from two sources:

- Tables 48-58, 70-80, and 134-137 in the hardbound PC(1) reports, and tables 60-63 in the HC(1) reports are corrected versions of their softbound PC(1)-C and HC(1)-B counterparts; and

- Supplementary reports PC(S1)-27 and HC(S1)-7 give corrected farm and rural nonfarm population and housing counts.

2. Effect on Poverty Data

Since poverty or "low income" thresholds are lower for farm residents than for nonfarm residents an error in designating farms also leads to erroneous data on the number of families and persons below the poverty level in rural areas. Thus, except in urban areas, the Fourth Count and softbound PC(1)-C and HC(1)-B tables on poverty should not be used.

C. Other Subject Matter Corrections

1. Overcount of Centenarians

A substantial number of respondents erroneously checked the first box for decade of birth -- thus indicating birth in the 1860's rather than the 1960's. The result is that too many people were recorded as being over 100 years old. The affect on the age categories thus undercounted is negligible but since there are so few people really over 100 years old, those figures are seriously distorted by the overcount. The impact is discernable on all tabulations of persons 65 years old or

over. Corrected counts by age, race, and sex have been prepared by county and are available on request from the Population Division.

2. Income

A processing error resulted in the overstatement of families, unrelated individuals, and persons with incomes of $50,000 or more in the Fourth Count summary tapes and the PC(1)-C and PHC(1) reports. The error occurred irregularly and had significant impact on only some of the geographic areas shown in these reports and tapes. Corrected data appear in the PC(1)-D reports, the Fifth and Sixth Count summary tapes, and in the 1972 County and City Data Book.

3. Other

A list of other processing errors, generally of more limited scope or impact, can be obtained from the Data User Services Division.

D. No Separate Errata for Summary Tapes

The same corrections which apply to data published in reports apply to the corresponding data on tapes. Some errata have been distributed with tapes, but the user of summary tape data should double check correction notes in corresponding reports.

Corrected population counts and income distributions for SMSA's, urbanized areas, counties, and places of 25,000+ population are provided in the 1972 County and City Data Book tape. Corrected 1970 population counts are provided for counties, all incorporated places, and active minor civil divisions in the 1973 Population Estimates File.

Section II: SIMPLE ERRORS OF INTERPRETATION

A. Importance of Concept Definitions

Mistakes are frequently made by users who think they know what a particular census variable means but have not checked the concept definition in the appendices to the reports or in the 1970 Census Users' Guide. Users mistake family income for household income, misinterpret the term unemployed or fail to consider what kinds of buildings are not considered as housing units. All of these problems could be avoided by frequent and conscientious reference to concept definitions when interpreting data.

B. Sources of Concept Definitions

Straightforward definitions and explanations appear in report appendices. This information may be supplemented by reference to a facsimile of the relevant parts of the questionnaire and the accompanying respondent instructions presented at the end of Appendix B of PC(1), HC(1) and HC(2) reports. Detailed presentation of how each question was categorized, edited, allocated or otherwise affected by collection and processing

procedures appears in Chapter 15 of the Procedural History, PHC(R)-1.

C. Example

Figure 7.1 on page 80 was taken from the PC(2)-6D subject report: "Journey to Work". Notice in the second column that there were a number of people living in the San Francisco - Oakland SMSA and working in various places across the country. The figures even seem to show 81 people commuting to Hawaii and 43 commuting to Viet Nam by car! These could be respondent errors, but it is more likely that these strange data can be explained by referring to concept definitions or to the questionnaire. (See page 10) Question 29c was worded "Where did you work last week", and for people who moved during the census week or were on a business trip the previous week, their responses do not indicate what one normally thinks of as commuting to work. An analogous explanation applies to the 8 people in Great Falls, Montana reported as going to work by subway.

Section III: "DISCREPANCIES" BETWEEN SAMPLE AND COMPLETE COUNT DATA

A. Sample Weighting

When data are tallied from the 20-percent sample, each sample person is counted as representing about five persons on the average. In this way the resulting data appear as estimates of a complete count. Fifteen- and five-percent sample data are similarly inflated by factors averaging about 6 2/3 and 20 respectively to achieve the same results. The specific factors used for individual cases in the 20-percent sample may vary somewhat since they are derived from the precise ratio of complete-count cases to sample cases for the particular areas, in a complicated procedure designed to minimize the sampling variability. The process is explained more fully in Appendix C to PC(1), HC(1), and PHC(1) report series. A byproduct of this process is that complete-count and sample population and housing counts usually match exactly only for the geographic units used in the process, called "sample weighting areas."

B. Discrepancies In Population And Housing Counts

Population and housing counts in complete count versus sample reports do not coincide precisely whenever the geographic area in question does not happen to equal a sample weighting area or a combination of complete sample weighting areas. Sample weighting areas used for 20-percent and 15-percent sample data are mutually exclusive units observing county, place, and census tract boundaries provided that each area has at least 2,500 inhabitants. Where, for example, a tract has less than 2,500 population it is lumped together with the next census tract to make up a sample weighting area, with the result that complete count and sample totals will not match exactly for either tract, but should match if the user added the two together. Sample weighting areas for 5-percent data are larger units with a minimum of 25,000 inhabitants. Data from the 5-percent sample will routinely differ somewhat from 100-percent, 20-percent, and 15-percent total figures unless the area in question coincides

Figure 7.1 Illustration of Data Subject to Misinterpretation

Table 1. Place of Work of Workers During the Census Week by Means of Transportation to Work: 1970—Con.

(Data based on 15-percent sample, see text. For meaning of symbols, see text)

Components of Standard Metropolitan Statistical Areas of 250,000 or More	Means of transportation: All means	Means of transportation: Private automobile, driver or passenger
SAN DIEGO, CALIF., SMSA—Con.		
Working in remainder of San Diego County—Con.		
Living in SMSA	162 196	122 345
California	162 196	122 345
San Diego County	162 196	122 345
Chula Vista	6 205	5 901
El Cajon	4 545	4 237
San Diego	31 604	28 537
Remainder of county	119 842	83 670
Living outside SMSA	4 197	3 551
California	3 595	3 224
Los Angeles County	841	757
Los Angeles	244	220
Remainder of county	354	327
Orange County	1 602	1 534
Santa Ana	101	96
Remainder of county	1 165	1 138
Riverside County	335	307
Riverside	110	89
Remainder of county	225	218
San Bernardino County	384	339
Remainder of county	310	280
Elsewhere	602	327
SAN FRANCISCO-OAKLAND, CALIF., SMSA		
Living in SMSA	1 252 710	924 651
Working in SMSA	1 083 751	798 277
California	1 083 751	798 277
Alameda County	365 610	299 096
Alameda	28 132	20 962
Berkeley	51 382	35 944
Fremont	18 673	17 009
Hayward	27 102	24 802
Oakland	148 699	118 950
San Leandro	33 840	30 625
Remainder of county	57 782	50 804
Contra Costa County	129 135	115 057
Concord	17 883	16 303
Richmond	26 699	24 084
Remainder of county	84 553	74 670
Marin County	41 068	34 007
San Francisco County	397 206	218 524
San Francisco	397 206	218 524
San Mateo County	190 732	131 593
Daly City	7 788	6 541
Redwood City	16 913	15 009
San Mateo	22 276	19 115
Remainder of county	103 755	90 928
Working outside SMSA	44 537	39 027
Arizona	151	110
Maricopa County	110	78
California	40 043	36 755
Fresno County	225	162
Fresno	164	124
Kern County	181	166
Remainder of county	119	104
Los Angeles County	1 358	1 000
Los Angeles	634	435
Remainder of county	369	307
Monterey County	270	216
Remainder of county	137	90
Napa County	409	349
Napa	251	236
Remainder of county	158	113
Orange County	458	404
Anaheim	179	162
Remainder of county	158	137
Placer County	168	128
Sacramento County	522	451
Sacramento	368	307
Remainder of county	154	144
San Bernardino County	131	80
Remainder of county	118	74
San Diego County	236	119
San Diego	124	55
San Joaquin County	634	556
Stockton	262	253
SAN FRANCISCO-OAKLAND, CALIF., SMSA—Con.		
Living in SMSA—Con.		
Working outside SMSA—Con.		
California—Con.		
San Joaquin County—Con.		
Remainder of county	352	303
Santa Barbara County	116	62
Santa Clara County	29 153	27 572
Mountain View	2 911	2 722
Palo Alto	11 684	11 083
San Jose	4 320	4 060
Santa Clara	1 557	1 460
Sunnyvale	3 477	3 385
Remainder of county	5 204	4 862
Santa Cruz County	210	121
Solano County	3 550	3 402
Vallejo	1 347	1 286
Remainder of county	2 203	2 116
Sonoma County	1 089	971
Santa Rosa	227	203
Remainder of county	862	768
Stanislaus County	132	123
Ventura County	177	136
Remainder of county	147	113
Yolo County	208	150
Connecticut	133	100
Florida	164	85
Hawaii	165	81
Honolulu County	153	75
Honolulu	191	55
Illinois	145	67
Cook County	109	46
Massachusetts	137	72
Nevada	141	81
New Jersey	118	67
New York	367	177
New York city	269	98
New York County	149	42
Oregon	175	115
Washington	265	167
King County	127	74
Vietnam	144	43
Abroad, not reported	669	254
Elsewhere	1 725	853
Not reported	124 422	87 347
Working in SMSA	1 157 096	859 419
Living in SMSA	1 083 751	798 277
California	1 083 751	798 277
Alameda County	359 729	283 266
Alameda	29 950	21 024
Berkeley	41 286	24 481
Fremont	28 726	26 461
Hayward	30 468	27 209
Oakland	117 998	86 245
San Leandro	25 903	22 146
Remainder of county	83 398	75 700
Contra Costa County	183 179	159 315
Concord	29 325	25 996
Richmond	25 236	21 184
Remainder of county	128 618	112 135
Marin County	71 354	58 163
San Francisco County	276 997	135 588
San Francisco	276 997	135 588
San Mateo County	192 492	161 945
Daly City	25 299	20 482
Redwood City	19 785	17 001
San Mateo	30 338	25 059
Remainder of county	117 070	99 403
Living outside SMSA	73 345	61 142
Arizona	139	85
California	68 763	58 551
Butte County	287	233
El Dorado County	161	126
Fresno County	578	523
Fresno	315	274
Remainder of county	263	249
Humboldt County	112	95
Kern County	203	192
Remainder of county	154	143
Lake County	134	127
SAN FRANCISCO-OAKLAND, CALIF., SMSA—Con.		
Living in Alameda County	415 376	326 616
Working in SMSA	359 729	283 266
California	359 729	283 266
Alameda County	307 833	246 046
Alameda	25 522	18 588
Berkeley	36 285	22 028
Fremont	18 130	16 481
Hayward	25 551	23 313
Oakland	122 230	94 897
San Leandro	30 821	27 808
Remainder of county	49 294	42 931
Contra Costa County	11 167	10 219
Concord	788	760
Richmond	4 051	3 634
Remainder of county	6 328	5 825
Marin County	590	522
San Francisco County	32 739	19 794
San Francisco	32 739	19 794
San Mateo County	7 400	6 685
Daly City	63	55
Redwood City	597	586
San Mateo	717	704
Remainder of county	6 023	5 340
Working outside SMSA	12 552	11 245
California	11 163	10 471
Los Angeles County	296	232
Los Angeles	142	102
Monterey County	120	101
Napa County	133	121
Orange County	186	170
Anaheim	121	121
Sacramento County	116	96
San Joaquin County	241	206
Remainder of county	162	133
Santa Clara County	8 185	7 931
Mountain View	847	785
Palo Alto	1 258	1 238
San Jose	2 219	2 140
Santa Clara	643	623
Sunnyvale	1 609	1 579
Remainder of county	1 609	1 566
Solano County	826	795
Vallejo	311	305
Remainder of county	515	490
Sonoma County	137	120
Remainder of county	102	85
Abroad, not reported	226	100
Elsewhere	1 170	674
Not reported	43 088	32 105
Working in Alameda County	378 587	310 812
Living in SMSA	365 610	299 096
California	365 610	299 096
Alameda County	307 833	246 046
Alameda	26 138	18 696
Berkeley	32 194	18 414
Fremont	25 255	23 365
Hayward	26 861	24 376
Oakland	99 317	73 661
San Leandro	23 489	20 464
Remainder of county	74 579	67 070
Contra Costa County	45 269	42 113
Concord	4 493	4 187
Richmond	7 711	7 017
Remainder of county	33 065	30 909
Marin County	1 868	1 811
San Francisco County	7 232	5 925
San Francisco	7 232	5 925
San Mateo County	3 408	3 201
Daly City	493	453
Redwood City	185	168
San Mateo	534	514
Remainder of county	2 196	2 066

Source: PC(2)-6D Journey to Work, pp. 195-196.

with the 5-percent sample weighting area. Population data and housing data are weighted according to corresponding, but independent, schemes. Thus population data in a housing report may disagree slightly with corresponding data in a population report, as illustrated in figure 7.2.

The point of this discussion is that, while estimates from samples need not exactly equal the complete count, they frequently do, and it may catch the user off guard when they do not. Such discrepancies are especially likely to be noticed in census tract reports where, for example, table P-1 was produced from complete count data and P-2 and other tables were developed from sample data--both tables list the total population at the top. Fourth Count and Fifth Count tapes contain 20-percent, 15-percent, and 5-percent data, and totals from the different samples may or may not precisely agree, just as they may disagree with Second Count (complete count) data.

This type of discrepancy is illustrated in figures 7.2 to 7.4. Notice that in figure 7.2, the only discrepancies occur in counties less than 2,500 and the counties following them. This is because county boundaries are always respected in defining weighting areas. This is not true in figure 7.4 for MCD's, since MCD's are usually ignored in the sample weighting process and differences more nearly reflect sampling variability as discussed in Section V.

C. Discrepancies in Complete Count Subject Items

The sample weighting process works to minimize differences between complete counts and sample estimates for certain basic age, race, sex, relationship, tenure, and household-size categories. Complete-count data will still usually not agree exactly with the same data produced from a sample. Why then are any complete count items tallied from sample data? First, cross-tabulations of sample and complete-count data are frequently of interest. Second, complete-count items are often used as bases of percentages for sample items. For example, in determining the percentage of 16-to-21-year-olds who are not high school graduates, the base figure for ages 16-21 would preferably be taken from the same sample source as the numerator.

In some cases it may be desirable to adjust complete count and sample figures into closer agreement. A process of supplementary ratio estimation which a user could do is described in Data Access Description No. 36, pages 11 and 12, with particular reference to data for enumeration districts and block groups.

Section IV: NONSAMPLING ERRORS

Human and mechanical errors occur in any mass statistical operation such as a decennial census. Some people missed being counted at all (estimated 2.5% of the total). Others may have misinterpreted certain questions or skipped an item on the questionnaire. And, as discussed earlier in the section on correction notes, errors were sometimes made in geographic coding or data processing. Careful efforts were made at every step in census collection and processing to keep errors at a practical minimum.

Figure 7.2 Population Discrepancies for Counties: Complete Count Versus Sample

(Population counts from selected printed reports series, 1970 Census of Population and Housing. Data shown are for Colorado.)

Counties	Complete-count data	Data based on sample	
	Table 9, PC(1)-A, Number of Inhabitants	Table 43, PC(1)-C, General Social and Economic Characteristics	Table 60, HC(1)-B, Detailed Housing Characteristics
Conejos	7,846	7,846	7,846
Costilla	3,091	3,091	3,091
Crowley	3,086	3,086	3,086
Custer	1,120	1,002	1,074
Delta	15,286	15,404	15,332
Denver	514,678	514,678	514,678
Dolores	1,641	1,593	1,632
Douglas	8,407	8,455	8,416
Eagle	7,498	7,498	7,498
Elbert	3,903	3,903	3,903

Figure 7.3 Population Discrepancies Within a Tract Report

PHC(1), Census Tracts (Denver)	tract 0058	tract 0059	tract 0060	tract 0061	tract 0062	tract 0063	tract 0064	tract 0066.01
Table P-1 (complete-count data)	3,420	5,957	3,356	3,099	4,106	3,682	3,248	21
Table P-2 (data based on sample)	3,420	5,935	3,356	3,095	4,071	3,678	3,304	0

Figure 7.4 **Population Discrepancies Between Complete-Count and Sample Data for MCD's**

	Total Population	
	Complete Count[1]	Sample Estimate[2]
Ashland town	397	485
Cairo town	3546	3448
Catskill town	10432	10446
Durham town	1651	1709
Greenville town	2279	2114
Halcott town	199	114
Hunter town	1742	1728
Jewett town	442	473
Lexington town	662	690
New Baltimore town	2068	2233
Prattsville town	721	771
Windham town	1190	1132

[1] Source: PC(1)-A31 New York Table 10 (Greene County)
[2] Source: Fifth Count Microfilm for MCD's/CCD's Table 3

A. Evaluation and Research Program

The Census Bureau conducted a number of studies of these errors in a formal Evaluation and Research Program covering the accuracy of selected subject matter (response errors) and the effectiveness of the enumeration process (coverage errors). These studies are published in the PHC(E) Evaluation and Research Program report series. These reports discuss underenumeration of blacks relative to underenumeration of whites (7.7 percent vs. 1.9 percent); clerical errors in coding write-in responses ranging from migration (5.5 percent) to occupation (13.3 percent); and respondent errors, as measured by reinterviews, on such subjects as disability status and vocational training. These studies were able to provide estimates of error at the National level. Unfortunately, this information can be only approximately applied to statistics for small areas, and these studies do not yield "correct" figures to substitute for those published in data reports.

A list of the PHC(E) reports and an index to subjects covered in the series is provided in Data User News, Volume 10, No. 8 (August, 1975), available on request.

B. Allocation Tables

Omissions or obvious inconsistencies in questionnaires people returned which could not be caught or followed-up during collection of the data were accounted for during computer processing of the data. Complicated procedures were developed to edit the data by computer and to make reasonable imputations (allocations) for missing or inconsistent data -- described briefly in Appendix C of PC(1)-C and HC(1)-B reports, and in more detail subject by subject in Procedural History PHC(R)-1 (or -1G), chapter 15. PC(1)-B, PC(1)-C, and HC(1) reports contain tables showing the allocation rate for various subjects for the State, SMSA's, counties, and places of 10,000 or more. If these tables show an unusually large allocation rate for a particular subject in a particular area, the data should be used with caution. The user of public use samples (described in chapter 5) has additional options for dealing with allocated data, as discussed in the public use sample documentation.

C. Nonsampling Errors in Perspective

The point of these cautions regarding nonsampling error is not that 1970 census data are so bad, which they are certainly not relative to most other sources of comparable information, but that the sophisticated user should become well aware of the quality of the data and the potential limitations to their use. Census data are unique in that their reliability and validity have been so well studied.

Section V: SAMPLING VARIABILITY

All numbers derived from sample data are only estimates of what a complete count would have shown. Stated another way, all data in PC(1)-C and -D,

HC(1)-B, HC(2), subject reports, and most of the data in PHC(1) reports contain some amount of chance error, and thus are subject to what we call "sampling variability." The magnitude of the likely error is rather small when large numbers are involved, but can be relatively large for smaller numbers. A simple example can be taken from a family poverty rate of 10 percent - if it referred to a large area of several million population, that figure would be expected to vary no more than a tenth of a percentage point, but a comparable figure for a census tract of a few thousand could merely represent a range of probable values from 6-14 percent. For other examples, see fig. 7.6.

A. Standard Errors

A statistic called the standard error allows one to estimate how much chance variation to allow for. Tables which can be used to estimate standard errors for particular numbers appear in almost any census report based on sample data, as discussed below in Section C.

Errors due to chance tend, in the long run, to occur in a particular pattern. About half of them reduce the estimate and about half of them increase it. Small errors (errors close to zero) happen more often than large errors. About two-thirds of the time the effect of sampling variability on a particular estimate will be less than the standard error of that estimate. The chances are also about 19 out of 20 that the estimate will be off by less than twice the standard error, and about 99 out of 100 that the difference is less than 2½ times the standard error. In these statements we are comparing the estimate to a corresponding complete count rather than to the "true value." Sample estimates can be affected by errors in processing, biases in responses and other forms of nonsampling error, in the same ways that complete counts are affected. Our calculations regarding sampling errors do not allow for most aspects of nonsampling error.

B. Confidence Intervals

Knowing the probabilities cited above it is possible to define confidence intervals with given probabilities of including the value we are trying to estimate:

- A two-thirds confidence interval, from one standard error below the estimate to one standard error above it ($\pm$ 1 se --plus or minus one standard error)
- A 95-percent confidence interval, from two standard errors below the estimate to two standard errors above it ($\pm$ 2 se)
- A 99-percent confidence interval, from 2½ standard errors below the estimate to 2½ standard errors above it ($\pm$ 2½ se)

Given an estimate of 1000 and a standard error of 60, a 2/3 confidence interval goes from 1000-60 to 1000+60, or 940 to 1060. Of course, one-third of the time the value being estimated would actually be above

1060 or below 940 - outside the 2/3 confidence interval. Therefore a more conservative interval is usually selected. A 95-percent confidence interval would be 880 to 1120 (1000 $\pm$ (2 x 60)). While the interval is larger, there is a much improved probability of being correct.

C. Estimating Standard Errors and Confidence Intervals

1. Four Basic Steps - Standard errors for census sample data can be approximated using a few simple steps with tables published in the back of reports containing sample data. The tables which appear in figure 7.5 have been taken from a Census Tracts PHC(1) report.

   a. Look up the approximate standard error in table D (for numbers) or table E (for percentages). Interpolate if necessary.

   b. Find the applicable factor in table F. (If more than one is applicable, use the largest.)

   c. Multiply the factor times the approximate standard error (that gives you your estimate of the standard error).

   d. Double the estimated standard error and add and subtract that figure from the original estimate, to determine a 95% confidence interval.

2. Example - Assume you have found, in Table P-2 of a tract report, that that there are 247 married women in the labor force in tract 18.01.

   a. From table D, the approximate standard error for 250 is 30.

   b. The factor for Employment Status is 0.8. (Since no factors are given for marital status and sex we can only assume they don't affect this calculation.)

   c. 30 x 0.8 = 24 is the estimated standard error for 247 married women in the labor force.

   d. 2 x 24 = 48. 247 - 48 to 247 + 48 (199 to 295) is the 95-percent confidence interval.

   Thus we can say that the odds are 19 out of 20 that the number of married women in the labor force in tract 18.01 would have been between 199 and 295 if derived from a complete count in the census.

   Note that if one had been trying to set up a day-care center for every 50 married women in the labor force one might actually be faced with the need for either one more or one fewer centers than census figures seemed to show. (Of course, change since 1970 also represents a major problem, since the composition of the local community could have changed and since we know that labor force participation among women in the United States has increased since 1970.)

Figure 7.5 Tables for Estimating Standard Errors

(Source Census Tracts, PHC(1), appendix C)

TABLE D. **Approximate Standard Error of Estimated Number Based on 20-Percent Sample (Range of 2 chances out of 3)**

Estimated number (persons or housing units)	Standard error	Estimated number (persons or housing units)	Standard error
50	15	1,000	60
100	20	2,500	85
250	30	5,000	100
500	45	(For larger figures use tables in PC(1) or HC(1) reports or formula (1) on page 88)	

TABLE E. **Approximate Standard Error of Estimated Percentage Based on 20-Percent Sample (Range of 2 chances out of 3)**

Estimated percentage	Base of percentage (persons or housing units)					
	500	1,000	2,500	5,000	10,000	15,000
2 or 98	1.3	0.9	0.6	0.4	0.3	0.2
5 or 95	2.0	1.4	0.9	0.6	0.4	0.4
10 or 90	2.7	1.9	1.2	0.8	0.6	0.5
25 or 75	3.9	2.7	1.7	1.2	0.9	0.7
50	4.5	3.2	2.0	1.4	1.0	0.8

TABLE F. **Factor to be Applied to Standard Errors**

[Subjects marked with an asterisk were tabulated on a 100% basis for tables P-1, H-1, and H-3. Standard errors are not applicable to these tables]

Population subjects[1]	Sample rate (percent)	Factor	Housing subjects[1]	Sample rate (percent)	Factor
*Race	20	1.6	*Tenure	20	0.2
*Age	20	0.8	*Rooms	20	1.0
*Household relationship	20	0.5	*Persons per room	20	0.4
*Family composition	20	0.6	*Value	20	1.0
Country of origin (including Spanish heritage subjects)	15	1.6	Units in structure	20	0.8
Nativity and parentage	15	1.7	Year structure built	20	0.9
School enrollment	15	1.0	Heating equipment	20	0.8
Years of school completed	20	1.0	Basement	20	0.9
Residence in 1965	15	2.0	Source of water	15	1.0
Employment status	20	0.8	Sewage disposal	15	1.0
Place of work	15	1.3	Air conditioning	15	1.1
Means of transportation to work	15	1.3	Year moved into unit	15	1.1
Occupation	20	1.1	Gross rent	20	0.9
Industry	20	1.1	All other—20 percent	20	1.0
Class of worker	20	1.1	—15 percent	15	1.2
Income—persons	20	1.0			
—families	20	1.0			
Poverty status—persons	20	1.9			
—families	20	1.0			
All other—20 percent	20	1.0			
—15 percent	15	1.2			

[1] Tabulations of data for persons of Spanish heritage are based on the 15-percent sample. For subjects shown in this table as based on the 20-percent sample, the factor for persons of Spanish heritage is obtained by multiplying the appropriate factor in this table by 1.2. For subjects shown as based on the 15-percent sample, the factor in this table can be used directly.

3. Alternative methods for approximating standard errors for values not in the tables.

   a. Linear Interpolation with Tables D or E - Standard errors for values not listed in tables D or E, but within the range of values represented, may be approximated by linear interpolation using the formula

$$se_N = se_{LL} + \left[\left(\frac{N - LL}{UL - LL}\right) \times \left(se_{UL} - se_{LL}\right)\right]$$

   where N is the estimate, UL and LL are the upper and lower limits of the range within which we are interpolating, and se_{UL} and se_{LL} are their standard errors.

   For example, the standard error of 15% where the base of the percentage is 1000 could be found out as follows:

   LL = 10% or .10 $\quad se_{LL}$ = 1.9 percentage points or .019

   UL = 25% or .25 $\quad se_{UL}$ = 2.7 percentage points or .027

$$se = .019 + \left[\left(\frac{.15 - .10}{.25 - .10}\right) \times \left(.027 - .019\right)\right] =$$

$$.019 + \frac{.05}{.15} \times .008 = .019 + .003 = .022 \text{ or } 2.2 \text{ percentage points}$$

   Note that if the base of the percentage had also been intermediate between figures given in the table, e.g. 1650, three steps of interpolation would have been necessary: to derive the standard error of 15-percent based on 1000, to derive the standard error of 15-percent based on 2500, and finally to interpolate between those two figures.

   b. Using Formulas to Replace Tables D and E - Given the complexities of linear interpolation and given the fact that tables D and E are themselves derived from formulas, it may be simpler to use formulas to develop approximate standard errors for values not shown in the tables, assuming that one has a calculator with a square root key.

   Standard error of an estimated <u>number</u> based on a 20-percent sample:

   (1) $\quad se_X = \sqrt{4X\left(1 - \frac{X}{N}\right)}$ 1/

Footnote 1 is on page 89

where X is the estimated number and N is the number in the area of persons, families or housing units (depending on whether X is in terms of persons, families, or housing units).

Standard error of an estimated <u>percentage</u> based on a 20-percent sample:

$$(2) \quad se_p = \sqrt{\frac{4P}{B}\left(1 - P\right)} \quad \underline{1/}$$

where P is the proportion (e.g., 5.2 percent converts to the proportion .052) and where B is the base of the proportion (i.e. $P = \frac{X}{B}$) Use of these formulas can give figures that appear very precise if carried to several decimal places. One must remember that standard errors so derived are themselves only estimates, and that rounding the answer may be in order.

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[1] Both formulas are based on the theoretical $\frac{pq}{n}$ variance (se^2) of an estimated proportion from a simple random sample, with a correction factor (1 - f) applied to account for the large (20-percent) sampling fraction; where p is the estimated proportion, q equals 1 - p, n is the number of sampled cases, and f is 20-percent or 1/5.

Formula (2) is derived as follows:

$$se_p = \sqrt{(1-f)\frac{pq}{n}} = \sqrt{.8 \times \frac{p(1-p)}{n}}$$

We don't know n, the actual number of sample cases so we substitute .2B where B is the estimated base of the percentage.

$$se_p = \sqrt{\frac{.8p\ (1-p)}{.2B}} = \sqrt{\frac{4p\ (1-p)}{B}}$$

Since p can be defined as X/N, where X is the estimated number and N is the number of all people (or families or housing units) in the area, we can assume that the standard error of X is N times the standard error of p; hence formula (1):

$$se_X = N\sqrt{(1-f)\frac{pq}{n}} = \sqrt{N^2(1-f)\frac{pq}{n}}$$

$$= \sqrt{N^2(.8)\frac{\left(\frac{X}{N}\right)\left(1 - \frac{X}{N}\right)}{.2N}}$$

$$= \sqrt{4\ N\left(\frac{X}{N}\right)\left(1 - \frac{X}{N}\right)} = \sqrt{4\ X\left(1 - \frac{X}{N}\right)}$$

Note that this formula is used even when the number being estimated was based on the 15-percent or 5-percent census sample - the factors in table F already take the difference in sample size into account.

D. Testing the Significance of a Difference Between Two Areas

Another application of the standard error is in determining whether two areas are significantly different with regard to a sample statistic. Apparent differences in estimates for two areas may reflect only chance factors and no significant differences at all. The same method would apply to any two uncorrelated statistics.

The standard error of the difference between sample numbers or percents for two distinct areas (A and B) is

$$se_{A-B} = \sqrt{se_A^2 + se_B^2}$$

Example

The percent of families below the poverty level is 15-percent in tract 65 and 10 percent in tract 66. The number of families, i.e., the bases of the percentages, are 1243 and 498 respectively. How sure are we that a complete count would have borne out a difference between the two tracts? First we determine the standard errors of both numbers. Using table E, the approximate standard error of 10 percent based on 500 families is 2.7 percentage points. The factor for poverty status for families is 1.0, so the standard error is 2.7 percentage points.

To determine the corresponding figure for 15-percent based on 1243 families we use formula (2) from page 89:

$$se = \sqrt{\frac{4P}{B}(1-P)} = \sqrt{\frac{4 \times .15}{1243}(1 - .15)} = .0203$$

or about 2.0 percentage points. The factor of 1.0 leaves 2.0 as our estimated standard error.

The standard error of the difference between the two figures is

$$se_{A-B} = \sqrt{se_A^2 + se_B^2} = \sqrt{(.020)^2 + (.027)^2} = \sqrt{.001129} = .0336$$

or about 3.4 percentage points. Since the 5 percentage point difference between the two tracts is only about 1.5 times the standard error, below the 95% confidence level, we should probably not rule out chance as accounting for the difference between the two tracts with regard to poverty level.

E. Standard Errors for Medians, Means and Correlated Statistics

The above procedures for estimating standard errors apply to simple frequency counts or percentages. The procedure must be modified when dealing

Figure 7.6 Confidence Intervals for Estimates at Different Levels

Data from PHC(1)-226 Census Tracts, Washington, D.C.-Md-Va SMSA

Occupation (Figures based on 20-percent sample)	Fairfax County, Va.			Tract 4049, Fairfax Co.		
	1970 Census Estimate (1)	Range on Estimate 1/ (2)	Relative Error 2/	1970 Census Estimate (3)	Range on Estimate 1/ (4)	Relative Error 2/
Total employed, 16 years old and over	163,556	162,456 - 164,656	0.7	749	634 - 864	15.4
Professional, technical & kindred workers	48,826	47,926 - 49,726	1.8	256	191 - 321	25.4
Managers & administrators, except farm	22,928	22,258 - 23,598	2.9	107	62 - 152	42.1
Sales workers	13,195	12,695 - 13,695	3.8	78	38 - 118	51.3
Clerical & kindred workers	38,121	37,341 - 38,901	2.1	194	134 - 254	30.9
Craftsmen, foremen & kindred workers	15,841	15,311 - 16,371	3.4	55	20 - 90	63.6
Operatives, except transport	4,454	4,164 - 4,744	6.5	6	*	
Transport equipment operatives	3,378	3,128 - 3,628	7.4	0	NA	
Laborers, except farm	2,885	2,655 - 3,115	8.0	16	*	
Farm workers	345	265 - 425	23.2	0	NA	
Service workers	12,088	11,608 - 12,568	4.0	37	7 - 67	81.1
Private household workers	1,495	1,325 - 1,665	11.4	0	NA	

1/ Takes account of sampling variability; range has 95% probability of including the value being estimated.

2/ Defined for this purpose as two standard errors as a percentage of the estimate.

* Indicates the relative error exceeds 100%.

with medians or means, or for comparisons of correlated statistics such as for a tract and the SMSA of which it is a part. These computations are discussed in the appendix C to PHC(1) Census Tracts or most other census reports containing sample data.

F. Additional Notes about the Use of Standard Error Factors

The size of the standard error for a particular number will depend on (1) the magnitude of the estimated number, (2) the size of the sample on which the estimate is based, (3) the subject matter involved and the way it is it is affected by how the sample was drawn, (4) the estimation process, and (5) local variation in the homogeneity of a population with regard to a characteristic. Tables D and E or the corresponding formulas account for the first component and part of the second. Factors such as those in table F then account for subject to subject variations in sampling fraction and the effects of the sample design and the estimation process. Local variation is not accounted for and becomes part of the noise in the estimate.

Looking at Table F one can notice that (1) factors for 15-percent subject items are larger than those for 20-percent items; (2) subjects involved in the ratio-estimation process, e.g., household relationship and tenure, tend to have smaller factors than do other subjects; and (3) items which are likely to be the same for all members of a household, e.g., race, residence in 1965, and poverty status for persons, have the highest factors due to clustering of the sampled units.

Factors may differ from report to report. Reports with more detailed data have more detailed factor tables. Table F has no factors for 5-percent data since the report from which it was taken had no 5-percent data. The factors were originally developed during processing of States in particular groups, and certain factors may differ slightly from one part of the country to another.

In cross tabulations there may be two or more applicable factors. Use of the largest applicable factor is the best available rule of thumb.

Section VI: SUPPRESSION

In order to protect the confidentiality promised respondents and required by law, it is necessary for the Census Bureau to make sure that its published data in print or on tape, do not disclose information about particular individuals. Therefore the Bureau withholds, or suppresses, tabulations of characteristics of very small groups of people or housing units, but in such a way that it is still possible to show those characteristics at higher levels of aggregation. As illustrated in figure 4.1 or 4.5 (pages 35 or 44) suppressed data are replaced by an ellipsis "..." in printed reports. On summary tapes negative numbers (-1 or -2) signal suppression in data cells.

(The ellipsis is also used in reports to replace medians or other summary statistics where the number of cases in the distribution is not large enough for the computation of a reasonably reliable statistic.)

For the user, the suppression of certain data may be inconvenient, particularly if one is trying to aggregate data for blocks or tracts to larger user-defined areas. The inconvenience can be lessened if one understands the rules the Census Bureau followed in its disclosure analysis.

A. General Principles

1. The total population or housing count within an area is never suppressed, even if there is a count of only one.

2. Suppression in complete-count data is designed around a "rule of 5" for certain critical universes. If there are fewer than five housing units in an area, then no housing characteristics are shown. Therefore, when a number is suppressed in complete-count data, you at least know that the number was in the range of one to four. Note that if the same area has five or more persons then population characteristics can be shown, even if all housing data are suppressed. Population characteristics cross-classified by race have an additional level of scrutiny: there must be five or more persons in a racial category before data (e.g. an age distribution) can be shown for that race. For complete-count housing data, the rule of five similarly applies to each race-of-head category and also to separate distributions for owners, renters, or vacant units.

3. For 20-percent sample data the rule of 5 becomes a rule of 25 in the estimate (representing roughly 5 sample cases), and 25 becomes the minimum number of persons or housing units in the critical universes for further data to be shown. Correspondingly the cutoff is 33 for 15-percent data and 100 for 5-percent data. Suppression is normally of lesser concern in sample data since any number small enough to be suppressed would not have been reliable anyway.

4. In some cases complementary suppression may be required, for example in a table where household size is shown for owners, renters and the total--if there are fewer than five renters then data for owners must be suppressed to prevent derivation of renter data by subtraction from the total.

5. Data for each area are suppressed independently, that is, on their own merits. Thus if data for two blocks are suppressed, but data are shown for all other blocks within the tract, then the total of the other blocks can be subtracted from the tract figure to obtain a total for the two suppressed blocks. This process frequently can yield a reasonable approximation for the missing data in each area.

6. The same rules apply to summary data on tape as apply to data in print. Of course since there is much more data for very small areas on tape,

suppression is a more frequent occurence on tape than in print. The concept of suppression applies only to summary data and not to public use samples, where the restrictions on geographic detail preclude the need for any suppression of particular subject items.

B. User Notes

1. Users occasionally misunderstand the "rule of 5" and are surprised to find a table showing, for instance, that there is only one black person in an area (assuming more than 5 total population). The number of persons in each race category will not be suppressed if the total population is five or more (25, 33, or 100 in sample data)--but an age distribution or other data about blacks will be withheld if there are fewer than 5 total blacks. As another example, occupation data (20% sample) could be shown for a universe of 10 or 15 employed persons provided that there are 25 total persons (estimated) in the area--employed persons is not a critical universe and can be less than the criterion.

2. Data for black or Spanish-American populations are not shown in PC(1)-C, HC(1)-B, or PHC(1) reports if there are fewer than 400 of that minority in a given area. This is not disclosure suppression, but merely represents an attempt to reduce publication costs. Sample data for black or Spanish-American populations of 25 to 399 are shown in the corresponding Fourth Count tapes.

3. Suppression does not occur in the subject reports or on the Sixth Count tapes or their associated reports (PC(1)-D and HC(2)), since these reports summarize data only for very large areas. The smaller the area the more frequently suppression occurs.

4. On summary tapes, critical universes which are zero have their associated data suppressed. In these cases it is usually possible to determine from other tables that the universe is in fact zero, and therefore all subcategories of the universe are necessarily zero. This is not a problem in printed reports where zero universes are not suppressed.

CHAPTER 8

CURRENT DEMOGRAPHIC DATA

While the Census of Population and Housing is generally considered the most authoritative source of information about the American population there are many needs that the census cannot meet. Once a census is several years old it may not be current enough for many purposes. Many data users want to study trends more immediate than just from one decade to the next. Others need data on subjects which were not asked in the census.

To meet these need the Census Bureau has a number of statistical programs - special censuses, estimates and projections, sample surveys. From the user's point of view these programs fall into two categories: (1) those which primarily provide updated population figures for areas as small as counties and cities, and (2) those which estimate a wide variety of characteristics but generally only at the National or regional level. There are some exceptions to this dichotomy described below (e.g., per capita income estimates for small areas, Annual Housing Surveys for selected SMSA's), but normally one must choose between geographic and subject matter specificity when looking for intercensal data.

Just as census data are subject to a variety of limitations (discussed in Chapter 7), so too are current data. Survey data normally have high sampling variability, much more than sample data in the census due to the use of considerably smaller sample sizes. Population estimates are subject to limitations in the validity of the model employed and errors in the data on which the estimates are based.

Section I: UPDATED POPULATION FIGURES

A. Special Censuses

Cities or other local governments frequently request a special census of population, conducted at their own expense. Semi-annual reports in the Current Population Reports, 1/ P-28 series, show the results of censuses conducted during the period. Data are provided on population by sex by race (2 categories: white; Negro and other races) and population change since April 1970 for each jurisdiction. Individual reports for places of 50,000 population or more show age by sex by race data for each census tract.

1/ The Current Population Report series is distributed on a subscription basis (currently $56 per year from GPO) which includes most of the reports ("P-" series) discussed in this chapter. Individual titles may also be purchased separately. Write to the Subscriber Services Section, Bureau of the Census, Washington D.C. 20233 for prices on specific reports.

B. Population Estimates for Counties and Cities

1. Federal-State Cooperative Program - County Estimates Every Year

Population estimates are prepared annually for counties and SMSA's using uniform procedures largely standardized for data input and methodology by mutual agreement of individual States and the Bureau of the Census. These estimates are published by State in the Current Population Reports, series P-26, with a few States released in series P-25. Estimates of the components of change since 1970 (births, deaths, and net migration) are also given. Estimates by race or other characteristics are not included. The lag time between the reference date of the estimates (July 1 of a particular year) and their publication averages about 12 months. The estimates are published initially on a provisional basis and finalized when the following year's provisional estimates are published. Figure 8.1 (a) illustrates data in the P-26 series of population estimates.

Report P-25 No. 620 provides a consolidated report of the 1973-1974 estimates for all counties. No. 618 summarizes the same data in terms of SMSA's. Report P-26 No. 118 is a status report on the development of the program as of January 1975.

2. Revenue Sharing Estimates - Counties, Cities and Many MCD's

Population estimates for July 1, 1975 and per capita income estimates for 1974 are being prepared for use in Federal revenue sharing allocations and are provided for all counties and incorporated places in each State, plus over 17,000 active minor civil divisions, updating 1970 census figures using a variety of administrative record sources including Federal individual income tax returns and Medicare enrollment statistics, and taking into account the independent county estimates described above. The estimates are being published in the P-25 series, one report for each State, in early 1977.

Similar population estimates were also prepared for July 1, 1973 with per capita income figures for 1972. Figure 8.1 (b) illustrates the format of the 1973 reports. A number of methodological changes have been made since these earlier estimates, and revised figures for 1973/1972 are contained in the 1975/1974 reports. Current plans call for the issuance of revenue sharing estimates for July 1, 1976 and 1978, probably in late 1977 and 1979 respectively.

A computer tape is available which lists each governmental unit, its 1970 census population (corrected), the population estimate for July 1, 1973, 1969 per capita income from the 1970 census, and estimated 1972 per capita income. A corresponding file will be issued with the July 1975 figures in early 1977.

Figure 8.1 Two Series of Population Estimates

(a) Federal State Cooperative Program (P-26/25)

Table 1. ESTIMATES OF THE POPULATION OF INDIANA COUNTIES: JULY 1, 1974 AND 1975

(State estimates are shown to the nearest thousand, county estimates to the nearest hundred)

COUNTY	JULY 1, 1975 (PROVISIONAL)	JULY 1, 1974	APRIL 1, 1970 (CENSUS)[1]	CHANGE, 1970 TO 1975		COMPONENTS OF CHANGE, 1970 TO 1975[2]			
				NUMBER	PERCENT	BIRTHS	DEATHS	NET MIGRATION	
								NUMBER	PERCENT
INDIANA	5,311,000	5,313,000	5,195,610	116,000	2.2	466,000	256,000	-94,000	-1.8
ADAMS	27,300	27,300	26,871	400	1.6	3,000	1,300	-1,200	-4.6
ALLEN	290,600	289,500	280,495	10,100	3.6	26,800	12,000	-4,600	-1.7
BARTHOLOMEW	59,400	58,000	57,022	2,300	4.1	5,700	2,400	-1,000	-1.8
BENTON	10,700	10,900	11,262	-600	-5.2	900	700	-800	-7.1
BLACKFORD	15,900	16,000	15,888	(Z)	-0.2	1,400	900	-600	-3.8
BOONE	32,300	31,800	30,870	1,400	4.5	2,600	1,700	600	1.9
BROWN	9,700	9,600	9,057	600	6.7	700	400	300	3.8
CARROLL	17,400	18,000	17,734	-100	-0.6	1,500	1,000	-600	-3.6
CASS	39,600	40,400	40,484	-800	-2.1	3,500	2,300	-2,000	-4.8
CLARK	82,900	81,300	75,876	7,000	9.3	7,000	3,300	3,400	4.4
CLAY	24,300	24,300	23,933	300	1.3	1,800	1,700	200	0.9
CLINTON	30,200	30,800	30,547	-400	-1.3	2,800	2,000	-1,200	-3.9
CRAWFORD	8,600	8,500	8,033	600	7.2	700	400	500	5.7
DAVIESS	25,700	26,500	26,602	-900	-3.5	2,200	1,400	-1,500	-5.5
DEARBORN	31,200	30,600	29,430	1,800	6.1	2,400	1,700	1,100	3.8
DECATUR	23,300	23,300	22,738	600	2.4	2,300	1,300	-400	-1.9
DE KALB	32,000	31,700	30,837	1,100	3.6	3,000	1,600	-300	-0.9
DELAWARE	129,200	130,300	129,219	(Z)	(Z)	11,100	9,700	-5,400	-4.2
DUBOIS	31,800	31,800	30,934	900	2.8	2,600	1,500	-200	-0.8
ELKHART	132,600	132,700	126,529	6,100	4.8	12,300	9,600	-600	-0.5
FAYETTE	27,600	27,500	26,216	1,400	5.4	2,800	1,500	100	0.4
FLOYD	56,200	57,000	55,622	500	1.0	6,500	2,900	-1,100	-2.0
FOUNTAIN	18,300	18,400	18,257	100	0.3	1,600	1,200	-300	-1.9
FRANKLIN	17,400	17,600	16,943	500	3.0	1,600	900	-200	-1.4
FULTON	17,200	17,600	16,984	200	1.1	1,400	1,200	(Z)	-0.2

(b) Revenue Sharing Estimates Program (P-25)

Table 1. POPULATION, 1970 AND 1973, AND RELATED PER CAPITA INCOME (PCI) FOR REVENUE SHARING AREAS

(1970 population and related PCI figures may reflect corrections to census counts or annexations. Estimates of percent change for PCI for places of 500 or less are not applicable. See text)

AREA	POPULATION			PER CAPITA MONEY INCOME (DOLLARS)		
	JULY 1, 1973 (ESTIMATE)	APRIL 1, 1970 (CENSUS)	PERCENT CHANGE	1972 (ESTIMATE)	1969 (CENSUS)	PERCENT CHANGE
STATE OF INDIANA	5 304 120	[1]5 195 610	2.1	3 702	3 070	20.6
ADAMS COUNTY	27 398	26 871	2.0	3 522	2 856	23.3
BERNE	3 075	2 988	2.9	4 241	3 597	17.9
DECATUR	8 254	8 445	-2.3	3 726	2 941	26.7
GENEVA	1 095	1 100	-0.1	3 146	2 635	19.4
MONROE	641	622	3.1	2 843	2 370	20.0
BLUE CREEK TOWNSHIP	755	728	3.7	3 305	2 692	22.8
FRENCH TOWNSHIP	760	733	3.7	2 670	2 175	22.8
HARTFORD TOWNSHIP	814	784	3.8	3 965	3 230	22.8
JEFFERSON TOWNSHIP	636	614	3.6	2 445	1 992	22.7
KIRKLAND TOWNSHIP	783	755	3.7	3 704	3 017	22.8
MONROE TOWNSHIP	3 696	3 595	2.8	3 335	2 881	15.8
PREBLE TOWNSHIP	1 212	1 016	19.3	3 516	2 682	31.1
ROOT TOWNSHIP	2 588	2 391	8.2	3 462	2 861	21.0
ST MARYS TOWNSHIP	1 105	1 070	3.3	3 584	2 773	29.2
UNION TOWNSHIP	1 003	966	3.8	4 031	3 284	22.7
WABASH TOWNSHIP	4 058	4 004	1.3	3 526	2 956	19.3
WASHINGTON TOWNSHIP	9 987	10 215	-2.2	3 646	2 882	26.5
ALLEN COUNTY	287 998	280 495	2.7	4 048	3 344	21.1
FORT WAYNE	[3]185 486	178 021	4.2	3 850	3 262	18.0
GRABILL	617	570	8.2	4 116	3 241	27.0
HUNTERTOWN	814	779	5.0	4 005	2 834	41.3
MONROEVILLE	1 355	1 353	0.1	3 607	2 966	24.4
NEW HAVEN	5 545	5 326	4.1	4 007	3 218	24.5
WOODBURN	711	686	3.5	3 985	3 187	25.0
ABOITE TOWNSHIP	6 222	6 132	1.5	4 805	5 019	39.6
ADAMS TOWNSHIP	33 800	31 034	8.9	4 140	3 336	24.1
CEDAR CREEK TOWNSHIP	4 085	4 414	-7.4	4 325	3 408	26.9
EEL RIVER TOWNSHIP	1 669	1 622	2.9	3 381	2 784	21.4

C. Other Estimates

The P-25 series also includes

for States:

- annual population estimates with components of change (P-25 No. 640 for 1970-1975)
- annual population estimates by age group (P-25 No. 619 for 1974 and 1975)
- annual estimates of the number of households (P-25 No. 623 for 1975)
- projected voting-age population (issued a few months before biennial elections, No. 626 for November 1976)
- projections by broad age group, 1980 to 2000 (to be issued in early 1977)

for the United States:

- monthly population estimates
- annual population estimates by components of change (P-25 No. 632 covers 1930 to 1975)
- annual population estimates by age by sex by race (P-25 No. 614 covers 1970-1975, No. 519 covers 1960-1973)
- projections by year to 1990 of the number of households by type and age of head, average number of persons per household and family, and population by age, sex and marital status. (P-25 No. 607 for 1975 to 1990)
- projections by age, sex and race 1975-2000, with projections of the total population only to 2050. (P-25 No. 601)

for outlying areas:

- annual population estimates for Puerto Rico and 5 other outlying areas of the United States (P-25 No. 603 for 1960 to 1973)

Section II: POPULATION AND HOUSING CHARACTERISTICS

A. Current Population Survey (CPS)

The Current Population Survey is a household sample survey of the civilian noninstitutional population of the United States. Its primary task is to produce monthly statistics on unemployment and the labor force, as published by the Bureau of Labor Statistics in its monthly bulletin Employment and Earnings.

CPS also serves as a vehicle for supplemental inquiries on subjects other than employment periodically added to the questionnaire. From the basic and supplemental data the Bureau of the Census issues four series of publications under the general title Current Population Reports:

P-20 Population Characteristics

P-23 Special Studies

P-27 Farm Population

P-60 Consumer Income

CPS reports differ significantly from most other Census Bureau report series in that they provide, along with the data tables, analytic text which discusses trends and implications drawn from the data. Current Population Reports in the series named above are of two basic types: (1) those which are issued annually with no major changes from year to year, and (2) unique reports resulting from special CPS supplements or special analytic efforts.

1. Annually Recurring Reports - Most CPS reports fall into one of the recurring topical series outlined in figure 8.2, most of which are annual and change very little from year to year. (Reports on voting are issued only in alternate years.) Since the report numbering system does not automatically indicate the reference year or topic, figure 8.2 provides report numbers by year and topic for the last several years. Advance reports which have since been superceded are not listed.

   One series especially worthy of note is the "Population Profile of the United States" issued first in 1974. This report provides statistics on a cross-section of subjects, presenting highlights from the other CPS report series as well as some data from the population estimates program.

   The most common subjects covered in each of these series are summarized in figure 8.3; geographic areas are summarized in figure 8.4.

Figure 8.2 Recurring CPS Reports

(1970 to January 1977)

Reference Year:	1976	1975	1974	1973	1972	1971	1970
P-20 Series[1]							
Population Profile		292	279	--	--	--	--
Household and Family	296*	291	276	258	246	233	218
Marital Status and Living Arrangements (March)	306	287	271	255	242	225	212
Mobility of the Population (March)	305	285	273	262	--	235	210
Educational Attainment (March)		295	274	274	243	229	207
School Enrollment--Social and Economic Characteristics of Students (Oct.)		303	286	272	260	241	222
College Plans of High School Seniors (October)		299	284	270	252	--	--
Fertility of American Women (June)[2]		301	277	265	248	263	--
Persons of Spanish Origin (March)	302*	290	280	--	--	--	--
Voting and Registration in the Election (November)	304	--	293	--	253	--	228
P-23 Series							
Characteristics of American Youth			51	--	44	40	34
Social and Economic Status of the Black Population			54	48	46	42	38
P-27 Series							
Farm Population		47	46	45	44	43	42
P-60 Series[3]							
Household Money Income and Selected Characteristics			100	96	89	84	79
Money Income of Families and Persons			101	97	90	85	80
Characteristics of the Low-Income Population			102	98	91	86	81

Note: Titles may vary slightly from year to year.

*Indicates an advance report with limited detail which will be superseded by the final report.

[1]The month in parentheses indicates when during the year the data were collected.

[2]Reports for 1975 and 1971 also include childbearing history information.

[3]Reference year is the year for which income was recorded. The survey data were collected in March of the following year.

Figure 8.3 Major Subject Variables in Recurring CPS Reports

KEY: XX extensive data, X some data	Primary Universe Tabulated	Age and Sex	Race				Relationship to household head	Years of School Completed	Employment Status	Major Occupational Group	Marital Status	Family Type	Family Income
			White	Negro and Other	Negro	Spanish Origin							
P-20 Population Profile		XX	XX	--	XX	XX	--	XX	XX	XX	XX	X	XX
Household & Family Characteristics (March)	1/	XX	XX	X	XX	--	--	X	X	X	--	X	--
Marital Status & Living Arrangements (March)	Persons 14+	XX	XX	XX	XX	--	XX	X	--	--	XX	XX	X
Mobility of the Population (March)	Persons born in 1970 or before	XX	XX	--	XX	--	XX	XX	X	XX	X	--	X
Educational Attainment (March)	Persons 14+	XX	XX	XX	XX	XX	--	XX	--	XX	--	--	--
Social & Economic Characteristics of Students (October)	Persons 3-34	XX	XX	--	XX	XX	--	--	--	X	--	X	X
College Plans of High School Seniors (October)	High School Seniors	XX	XX	--	XX	X	--	XX	X	X	X	X	X
Fertility (June)	Females 14+	XX	XX	--	XX	XX	XX	XX	X	--	--	--	XX
Persons of Spanish Origin (March)	1/	XX	--	--	--	XX	X	XX	XX	XX	XX	X	XX
Voting and Registration (November)	Persons 18+	XX	X	--	X	X	--	X	--	X	--	--	--
P-23 American Youth	Persons 14-24	XX	XX	--	XX	X	--	XX	XX	X	X	X	XX
Black Population	1/	XX	X	--	XX	--	--	XX	XX	XX	X	X	XX
P-27 Farm Population	1/	XX	XX	XX	--	--	--	--	XX	X	--	--	X
P-60 Money Income in 197# of Families & Persons in the U.S.	1/	XX	XX	--	XX	--	XX	X	XX	X	X	X	XX
Household Money Income in 197# & Selected Characteristics	Households	XX	XX	XX	XX	--	--	XX	X	X	X	X	XX
Characteristics of the Low-Income Population	1/	XX	--	--	XX	X	XX	X	XX	XX	X	XX	--

1/ Households, Persons 14+, Families, Unrelated Individuals 14+

Figure 8.4 Geographic Variables in Recurring CPS Reports

KEY: XX extensive data, X some data	Type of residence						Geographic Area			
	Metropolitan Area 1/	Inside Central Cities	Outside Central Cities	Nonmetropolitan Area 1/	Farm	Non-Farm	U.S.	Regions	Selected SMSA's	Other
P-20										
Population Profile	X	X	X	X	--	--	XX	X	--	X (State)
Household & Family Characteristics (March)	XX	X	X	XX	XX	XX	XX	X	X	--
Marital Status & Living Arrangements (March)	--	--	--	--	XX	XX	XX	X	--	--
Mobility of the Population (March)	XX	XX	XX	XX	--	--	XX	X	--	XX
Educational Attainment (March)	XX	XX	XX	XX	XX	XX	XX	X	--	--
Social & Economic Characteristics of Students (October)	XX	XX	XX	XX	--	--	XX	X	--	--
College Plans of High School Seniors (October)	X	X	X	X	--	--	XX	X	--	--
Fertility (June)	XX	--	--	XX	--	--	XX	--	--	--
Persons of Spanish Origin (March)	X	X	X	X	--	--	XX	--	--	(Selected X Areas)
Voting and Registration (November)	X	X	X	X	X	--	XX	XX	X	(Selected X States)
P-23										
American Youth	X	X	X	X	--	--	XX	--	--	--
Black Population	X	X	X	X	--	--	XX	X	--	X
P-27										
Farm Population	--	--	--	--	X	X	XX	X	--	--
P-60										
Money Income in 197# of Families & Persons in the U.S.	X	X	X	X	X	X	XX	X	--	--
Household Money Income in 197# & Selected Characteristics	--	--	--	--	X	X	XX	--	--	--
Characteristics of the Low-Income Population	X	X	X	X	--	--	XX	--	--	(Federal X Regions)

1/ Metropolitan, nonmetropolitan, and central city residence are reported according to definitions for the 1970 census; i.e., they do not account for additions to SMSA's or cities since 1970.

2. Other CPS Reports - Some of the most interesting Current Population Report titles result from special one-time inquiries on CPS supplemental questionnaires or represent special analytic efforts. Figure 8.5 lists the titles of reports issued in the last few years. Note that several reports in the P-20 series deal with characteristics of college students: living arrangements, income and expenses and major field of study.

3. Annual Demographic File - CPS data collected in March of every year contain a wide variety of demographic and socioeconomic subject matter including detailed income and work history information. In addition to its use in generating a large number of the Current Population Reports, the March CPS is also disseminated in microdata form as the Annual Demographic File (ADF). This form allows the user to create tabulations not presented in the published reports.

   Structure and contents of the ADF are fairly similar to those of the public use samples of basic records from the 1960 and 1970 censuses, except for the omission of housing data and selected other variables. The sample size of approximately 1-in-1400 limits the use of the sample to the United States or relatively large populations within it. Specific contents and geographic areas identified are discussed in Data Access Description No. 37, "Microdata From the Current Population Survey - the Annual Demographic File." Files are available for each year beginning in 1968, three to four tapes for each year.

4. Statement of Survey Methodology - Much of the important developmental work in the field of survey methodology has emerged in the planning and execution of the Current Population Survey over the last three decades. Its methodological statement, a new revision of which is to be published in early 1977, may in fact be useful as a supplementary statistical text. Such a report has added significance because CPS methodology is also incorporated in most other household surveys at the Census Bureau.

B. Annual Housing Survey (AHS)

The Annual Housing Survey is a relatively new and quite significant addition to the current data programs of the Bureau. The survey, funded through the Department of Housing and Urban Development, includes subjects similar to those in past censuses of housing, but also collects data on how well household facilities work, how dependable are services such as sewage disposal and garbage collection, household problems such as leaky roofs and basements, holes in walls and ceilings, and even respondent perception of certain neighborhood environmental characteristics. Householders are also asked about the adequacy of neighborhood public services such as mass transportation, schools, police and fire services. Separate data for units added to or deleted from the housing inventory (e.g., construction, demolition) since 1970, and detailed characteristics of recent movers are other unique features of AHS reports.

Figure 8.5 Current Population Reports Not in Recurring Series

(Issued 1973 to 1976)

P-20:

No. 298 Daytime Care of Children: October 1974 to 1975

No. 297 Number, Timing, and Duration of Marriages and Divorces: June 1975

No. 289 Major Field of Study of College Students: October 1974

No. 281 Income and Expenses of Students Enrolled in Postsecondary Schools: October 1973

No. 268 Nursery School and Kindergarten Enrollment: October 1973

No. 257 Undergraduate Enrollment in 2-Year and 4-Year Colleges: October 1972

No. 249 Characteristics of the Population by Ethnic Origin: March 1972 and 1971

No. 245 Living Arrangements of College Students: October 1971

P-23:

No. 64 Geographic Mobility of Americans (An International Comparison), by Larry H. Long and Celia G. Boertlein

No. 63 Premarital Fertility

No. 62 Concepts and Methods Used in Labor Force Statistics Derived from CPS

No. 61 Characteristics of Households Purchasing Food Stamps

No. 60 Language Usage in the U.S.

No. 59 Demographic Aspects of Aging and the Older Population in the U.S.

No. 58 A Statistical Portrait of Women in the U.S.

No. 57 Social and Economic Characteristics of the Older Population: 1974

No. 56 Coverage of Population in the 1970 Census and Some Implications for Public Programs

No. 55 Social and Economic Characteristics of the Metropolitan and Nonmetropolitan Populations: 1974 and 1970

No. 53 Selected Characteristics of Persons in Fields of Science or Engineering: 1974

No. 52 Some Recent Changes in American Families, by Paul C. Glick

No. 50 Female Family Heads

No. 49 Population of the United States, Trends and Prospects: 1950-1990

No. 47 Illustrative Projections of Money Income Size Distributions for Families and Unrelated Individuals

No. 45 Persons in Engineering, Scientific, and Technical Occupations: 1970 and 1972

P-25:

No. 627 Language Minority, Illiteracy, and Voting Data Used in Making Determinations for the Voting Rights Act Amendments of 1975 (Public Law 94-73)

P-60:

No. 95 Supplementary Report on the Low-Income Population: 1966 to 1972

No. 94 Annual Mean Income, Lifetime Income, and Educational Attainment of Men in the United States for Selected Years, 1956 to 1972

1. National Data - The National component of AHS was first conducted in 1973. This National household sample annually provides data for the Nation, census geographic regions, and metropolitan and nonmetropolitan areas. Six reports were issued for 1974:

   Series H-150-74

   A. General Housing Characteristics for the United States and Regions: 1974

   B. Indicators of Housing and Neighborhood Quality for the United States and Regions: 1974

   C. Financial Characteristics of the Housing Inventory for the United States and Regions: 1974

   D. Housing Characteristics of Recent Movers for the United States and Regions: 1974

   E. Urban and Rural Housing Characteristics for the United States and Regions: 1974

   F. Financial Characteristics by Indicators of Housing and Neighborhood Quality for the United States and Regions: 1974

   These reports contain some analytical text. Similar reports for 1975 are expected to be issued by mid-1977.

2. SMSA Data - The second part of the AHS consists of samples in 60 SMSA's. About 20 SMSA's are sampled each year, on a rotating basis as listed in figure 8.6, and the cycle is to be repeated so that each SMSA is resurveyed every third year. Data are available for Group I (1974-1975) SMSA's in series H-170-74. Group II SMSA data are scheduled to appear in mid 1977, and Group III in spring 1978. One report is issued for each SMSA with chapters corresponding to the various parts of the National series.

3. Annual Housing Survey Microdata - AHS data are also made available in microdata form. The entire contents of the survey form, minus identifying information, are provided in these files. The best key to the range of data available is provided by the facsimile questionnaire included in AHS reports.

   The 1973 National sample file identifies regions, urban/rural, metropolitan/nonmetropolitan and several size-of-place categories. SMSA files identify inside/outside the central city and selected counties to the extent possible without isolating an area smaller than 250,000 population.

4. Transportation-to-Work Supplement - Beginning with the 1974 National survey, supplemental questions were asked on commuting to work. Time,

Figure 8.6 SMSA's in the Annual Housing Survey SMSA Samples

GROUP I 1974-1975	GROUP II 1975-1976	GROUP III 1976-1977
Albany-Schenectady-Troy, N.Y.	Atlanta, Ga.*	Allentown-Bethlehem-Easton, Pa.-N.J.
Anaheim-Santa Ana-Garden Grove, Calif.	Chicago, Ill.*	Baltimore, Md.
Boston, Mass.*	Cincinnati, Ohio-Ky.-Ind.	Birmingham, Ala.
Dallas, Tex.	Colorado Springs, Colo.	Buffalo, N.Y.
Detroit, Mich.*	Columbus, Ohio	Cleveland, Ohio
Fort Worth, Tex.	Hartford, Conn.	Denver, Colo.
Los Angeles-Long Beach, Calif.*	Kansas City, Mo.-Kans.	Grand Rapids, Mich.
Memphis, Tenn.-Ark.	Miami, Fla.	Honolulu, Hawaii
Minneapolis-St. Paul, Minn.	Milwaukee, Wisc.	Houston, Tex.*
Newark, N.J.	New Orleans, La.	Indianapolis, Ind.
Orlando, Fla.	Newport News-Hampton, Va.	Las Vegas, Nev.
Phoenix, Ariz.	Paterson-Clifton-Passaic, N.J.	Louisville, Ky.-Ind.
Pittsburgh, Pa.	Philadelphia, Pa.-N.J.*	New York, N.Y.*
Saginaw, Mich.	Portland, Oreg.-Wash.	Oklahoma City, Okla.
Salt Lake City, Utah	Rochester, N.Y.	Omaha, Nebr.-Iowa
Spokane, Wash.	San Antonio, Tex.	Providence-Pawtucket-Warwick, R.I.-Mass.
Tacoma, Wash.	San Bernardino-Riverside-Ontario, Calif.	Raleigh, N.C.
Washington, D.C.-Md.-Va.*	San Diego, Calif.	Sacramento, Calif.
Wichita, Kans.	San Francisco-Oakland, Calif.*	St. Louis, Mo.-Ill.*
	Springfield-Chicopee-Holyoke, Mass.-Conn	Seattle-Everett, Wash.*
	Madison, Wisc.**	

*Sample size of 15,000 housing units; all others are 5,000 housing units.
**Will be included with group I on future enumerations.

Note: SMSA's are defined for this survey according to their 1970 boundaries, notwithstanding any changes in definition which may have taken place since then.

distance, and means of travel to work for household heads are summarized in 1974 AHS reports. More detailed travel-to-work data was collected beginning with the 1975 National and Group II SMSA samples, and will be published in a separate report series.

C. Other Current Reports

Data Access Description No. 38 "Current Survey Statistics Available from the Bureau of the Census" describes other current housing and related series, including Housing Vacancies, Housing Starts, Housing Authorized by Building Permits and Public Contracts, and several others.

Four other major surveys not mentioned in DAD No. 38 are worthy of note. All four are surveys which other Federal agencies have contracted with the Census Bureau to collect, making use of the Bureau's survey expertise and field organization. Two of the four are of special interest in that they are designed to yield substantial data useable below the National level.

1. National Crime Surveys - The National Crime Surveys, conducted on behalf of the Law Enforcement Assistance Administration, measure crime in terms of its victims (persons 12 years old and over, households, and businesses) in contrast to traditional measures of incidents as reported to police. The program provides a variety of information not available from other sources, including the costs and effects of certain crimes, the demographic and socioeconomic characteristics of victims and nonvictims, and characteristics of the criminal events.

   The National Crime Survey is composed of two types of samples: a National sample and 26 city samples. The National sample produces annual data (first collected in 1973) based on personal interviews at 72,000 households and 40,000 businesses sampled throughout the U.S. The city samples include about 12,000 households and 2,000 businesses in each of 26 cities: Atlanta, Baltimore, Cleveland, Dallas, Denver, Newark, Portland, and St. Louis (interviewed in 1971/1972 and 1975); Chicago, Detroit, Los Angeles, New York, and Philadelphia (interviewed in 1972 and 1975); and Boston, Buffalo, Cincinnati, Houston, Miami, Milwaukee, Minneapolis, New Orleans, Oakland, Pittsburgh, San Diego, San Francisco, and Washington, D.C. (interviewed in 1974).

   Inquiries about National Crime Survey reports, or about microdata released from the survey, may be directed to the Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, D.C. 20530.

2. Survey of Income and Education - The Survey of Income and Education (SIE) was a large, one-time household survey taken in 1976 in order to provide certain statistics useable at the State level, especially the number of children aged 5 to 17 in families below the poverty level. The required sample size was obtained by augmenting the regular March 1976 CPS sample of some 69,000 households with a supplemental general population sample of approximately 190,000 additional households.

All households in the combined sample were asked to respond to the standard March CPS questions on current labor force participation, work experience, and income, as well as general demographic data for each household member. Additional questions were asked at non-CPS households in order to determine, among other things, the number of persons who, because of limited English-speaking ability, are in need of bilingual education, guidance and counseling.

A number of Federal agencies will be participating in the analysis of SIE data, though the primary publications will be issued by the Office of Education in the Department of Health, Education and Welfare beginning in mid-1977. Public-use microdata from both the 1976 CPS (Annual Demographic File) and SIE supplemental sample will become available in mid-1977 from the Census Bureau. The SIE file will identify every State and some subdivisions within larger States.

3. Health Interview Survey - The Health Interview Survey, in operation since 1967, consists of a continuous sampling and interviewing of the civilian, noninstitutional population of the United States to gather information on the health of the American people. Information is tabulated and released on a quarterly and annual basis for a variety of topics, usually at the National level.

   The health interview survey includes items on acute conditions and injuries, chronic conditions, days of disability due to acute or chronic conditions, limitation of activity caused by chronic conditions or impairment, hospitalization, and selected demographic, social and economic characteristics of the sample population. During recent years, medical care provided by physicians and dental care have been added to the questionnaire.

   Published tabulations and public-use microdata are released by the National Center for Health Statistics, U.S. Department of Health, Education and Welfare, Washington, D.C. 20201.

4. Consumer Expenditure Survey - The Consumer Expenditure Survey is the only comprehensive source of detailed information on family expenditures that can be classified according to socioeconomic and demographic characteristics of those families. The survey was conducted in 1972 and 1973 by the Census Bureau on behalf of the Bureau of Labor Statistics which is using the data primarily to benchmark its monthly Consumer Price Index.

   The survey consisted of two separate components: (1) a survey in which families or unrelated individuals were interviewed every 3 months over a 15-month period to collect information on large, easily recalled expenditures; and (2) a separate survey in which respondents kept a diary of all of their expenditures for two 1-week periods, with special attention given to foods, beverages, and personal care products and services, which would be poorly recalled by respondents over a longer period of time. Socioeconomic characteristics were collected for each family member in both surveys.

Reports from the Consumer Expenditure Survey are being published by the Bureau of Labor Statistics, U.S. Department of Labor, Washington D.C. 20211. The reports provide data almost exclusively at the national level (there are a few tables for the four census regions), but provide considerable detail on types of expenditures. Public-use microdata are to be released by BLS in mid-1977 with geographic detail restricted to regions, urban/rural, and size of SMSA.

CHAPTER 9

REFERENCE SOURCES

Many reference sources have been cited throughout this manual as those works related to particular topics. This chapter concentrates on general-purpose reference works and a few other sources not previously mentioned, rather than repeat those already given to the more specialized titles.

Brief descriptions of many of these references are given on pages 4 and 5 of the Student Workbook. This chapter discusses the references more deeply, describing advantages and limitations of each and how they relate to one another.

Before discussing works which are specifically designed for reference purposes, it is worthwhile to note that most data reports published by the Census Bureau contain a substantial amount of important reference text. Such reports generally:

- describe certain basic features of the data collection;
- define applicable geographic areas (frequently "Appendix A"),
- define subject matter concepts (frequently "Appendix B");
- show facsimiles of the appropriate questionnaire segments and respondent instructions;
- discuss sampling variability, if applicable (frequently "Appendix C"); and
- outline the publication program of which they are a part (frequently the inside back cover).

Some reports [PC(1)-A through -D, HC(1)-A and -B, HC(2)] also contain simple table finding guides, as illustrated at the end of Chapter 10 by the table finders for PC(1) and HC(1) reports (pages 136 to 139).

Explanatory material is generally absent or abbreviated in reports designated "preliminary" or "advance" and in the statistical compendia cited in Section III below.

Section I: REFERENCES FOR 1970 CENSUS AND RELATED DATA

A. 1970 Census Users' Guide

The Users' Guide is a good general-purpose introduction to the 1970 census, subject to the limitation that it was published in 1970 and does not reflect the more recent changes or elaborations in the publication and computer tape program, nor does it cover a few significant topics such as sampling variability or table locating. The Users' Guide was published in two parts: Part I constituting the text and Part II containing primarily documentation for the First, Second, Third and Fourth Count summary tapes.

Part I The feature of greatest continuing use in Part I of the Guide is the Census Users' Dictionary, a comprehensive compilation of 1970 census concept definitions under the headings of Geographic Areas, Population Census Concepts, and Housing Census Concepts. While essentially similar concept definitions appear in the various data reports, no other single report covers them all. The text of Part I includes a general discussion of census data-collection methodology and data use. Much of the section on Data Products and Data Delivery is superceded by text and references found in this Reference Manual. The main text and the Census Users' Dictionary are covered by separate indexes. A glossary of selected technical terms and abbreviations is also included. (162 pp., $2,10, BC1/)

Part II includes technical documentation for the First through Fourth Count summary tapes. (382 pp, $4.40 BC) Documentation for other 1970 tapes, including the Fifth and Sixth Count summary tapes and the public use samples, is available from Data User Services Division, Bureau of the Census, Washington D.C. 20233, $3 each.

B. Data Access Descriptions (DAD's)

Data Access Descriptions are a series of brochures on particular topics or data products. Titles of all current DAD's are contained in figure 9.3 (page 129). Two DAD's are significant general reference sources in their own right:

1/ Reports designated "BC" are sold by the Subscriber Services Section (Publications), Bureau of the Census, Washington D.C. 20233. Reports designated "GPO" are sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO classification numbers or stock numbers are given to facilitate ordering.

1. DAD No. 39, "Reports Related to the 1970 Census of Population and Housing." - DAD No. 39 is the most comprehensive listing of specific 1970 census reports available - in terms of the standard data report series and the units by which they were issued (States, SMSA's, special subjects, etc.), and in terms of maps, methodological reports, guides and use-related reports which are frequently omitted from statements of the census publication program. Figures in DAD No. 39 provide the most systematic available guides to both the subject report [PC(2) and HC(7)] and supplementary report [PC(S1) and HC(S1)] series. (24 pp., 55¢, BC)

2. DAD No. 38, "Current Survey Statistics Available from the Bureau of the Census" - DAD No. 38 provides systematic descriptions of each of the Bureau's report series resulting from recurring surveys or compilations of administrative records (but excludes surveys taken only on a one-time basis or taken for other Federal agencies which publish the results.) Each series is described in terms of its frequency, geographic areas, source and scope, principal subjects and a contact for further information (including phone number). DAD No. 38 describes the report series but not specific reports or titles in the series, except where titles do not vary from year to year (53 pp., $1.30, BC).

C. Index to Selected 1970 Census Reports, by Paul T. Zeisset

This publication is an exhaustive index to data tables in the major report series of the 1970 census, except for subject and supplementary reports. [Series included: PC(1), HC(1), HC(2), HC(3), PHC(1), PHC(2)]. The Index consists of a cross-reference guide to census terminology, and computer-generated index entries listed alphabetically by subject. Each entry lists the report and table number, geographic areas, and subjects covered. The features of the Index are illustrated in Figure 9.1.

The Index is efficient and indispensable in locating cross-tabulations of two or more variables or in locating specific measures such as medians or percents. The experienced user will, on the other hand, learn that for common one-variable inquiries, table-finding guides in PC(1) and HC(1) reports may be faster, assuming one is familiar enough with the report series (or with figure 4.3 on page 40) to have started with the right report. It is fairly important to understand the indexing principles as described in the introduction of the Index in order to make the best use of it. Once mastered, the Index is a powerful tool.

The cross-reference guide may, incidentally, be of some use to the beginner in translating his data request into terminology commonly used in census reports. A series of structured exercises which are helpful in learning to use the Index is available from the Data User Services Division on request. (388 pp., $3.70, BC)

Figure 9.1 Introduction Index to Selected 1970 Census Reports

A data table in a report . . . is represented in the INDEX like this

Table 37. Household Relationship by Race, for Counties: 1970

Counties	Allegany	Anne Arundel	Baltimore
Total persons, 65 years old and over	10 071	15 916	45 683
Head of family	3 730	5 564	15 432
Wife of head	1 824	2 892	8 392
Other family member	1 314	3 421	9 725
Not related to head	165	421	948
Primary individual	2 751	2 850	7 557
Inmate of institution	249	691	3 019
Other, in group quarters	38	77	610
White persons, 65 years old and over	9 942	13 723	44 163
Head of family	3 685	4 764	14 882
Wife of head	1 808	2 587	8 153
Other family member	1 297	3 077	9 467
Not related to head	158	330	884
Primary individual	2 717	2 483	7 354
Inmate of institution	239	425	2 861
Other, in group quarters	38	57	562
Negro persons, 65 years old and over	119	2 138	1 393
Head of family	44	780	523
Wife of head	16	301	221
Other family member	16	324	199
Not related to head	6	90	57
Primary individual	28	358	188
Inmate of institution	9	265	157
Other in group quarters	-	20	48

Stratifiers — *No. of Categories*

HOUSEHOLD RELATIONSHIP (7) BY RACE (3)
UNIVERSE: PERSONS 65 YEARS OLD AND OVER -- FOR: COUNTIES PC(1)-B 37

Universe — *Geographic Referent* — *Report* — *Table*

and this

RACE (3) BY HOUSEHOLD RELATIONSHIP (7)
UNIVERSE: PERSONS 65 YEARS OLD AND OVER -- FOR: COUNTIES PC(1)-B 37

and this

*AGE UNIVERSE RESTRICTORS:
65 YEARS OLD AND OVER
PERSONS 65 YEARS OLD AND OVER
STRATIFIED BY HOUSEHOLD
RELATIONSHIP (7) BY RACE
(3) -- FOR: COUNTIES PC(1)-B 37

Restrictor — *Universe* — *Stratifiers* — *Geographic Referent* — *Report* — *Table*

The Cross-Reference Guide (colored pages) will tell you:

a. What terms to look up in the index

b. What related stratifiers you need to check

c. Whether other reports not in the index should be checked

d. Whether you need to look for "restricted universe" entries

HOUSEHOLD RELATIONSHIP
Restrictors:
HOUSEHOLD HEADS
FAMILY HEADS
OWN CHILDREN UNDER 18
INMATES OF INSTITUTIONS
See also: Group Quarters Type
Subfamily Membership
Note: Detailed household relationship data for the nation are presented in the subject report *Persons by Family Characteristics*, PC(2)-4B.

Inmates of Institutions—See: Household Relationship
Group Quarters Type

Relationship to Head of Household—See:
Household Relationship

GENERAL NOTES:

1. Read the introduction "How to Use the Index" thoroughly.
2. Refer frequently to the Cross-Reference Guide (even when you feel confident of the terminology).
3. Use the "Step-by-Step Approach to the Index" on page 8.

D. Index to 1970 Census Summary Tapes, by Paul T. Zeisset

This Index uses essentially the same system as the Index to Selected 1970 Census Reports, though in practice it may be easier to use due to the fact that the table structure of summary tapes is less complex than that of corresponding reports. The main body of computer-generated index entries is divided into two parts: one for the first five counts, which are the most used, and one for the Sixth Count. (216 pp. at $2.60, BC)

E. Procedural History of the 1970 Census (PHC(R)-1)

This report describes in detail the methodological and administrative aspects of the 1970 census, from its early stages of research and planning through the tabulation, publication, and dissemination of the final results. The various chapters were issued originally in "advance issuance" reports PHC(R)-1A through -1J, but have since been assembled, with minor corrections, into a single volume. While most of the material in the history will seem esoteric to the typical data user, a few sections may be of interest: the detailed description of the field collection techniques, including special procedures for motels, college dormitories, and so forth (Chapter 5); and the detailed discussion of each census question, including its definition, coding of write-in responses, editing and imputation for missing entries (Chapter 15). (701 pp., $8.50, GPO Stock No. 003-024-01209-0)

Section II: REFERENCES COVERING ALL CENSUS BUREAU PROGRAMS

A. Bureau of the Census Catalog

The Catalog is the comprehensive listing of all Bureau publications and computerized data files, each issue covering those products which have become available during the reference period. The Catalog is published quarterly, each issue cumulative to the annual summary (Jan-Mar, Jan-June, Jan-Sept, Annual).

1. Features - Each Catalog issue has two parts, each arranged according to major subject field (e.g., Agriculture, Governments, Population, etc.). Part I, "Publications", is a classified and annotated bibliography of all publications issued by the Bureau during the year to date. Abstracts of statistical publications list subjects and geographic areas covered in the report and provide complete price and ordering information, including GPO classification or stock numbers as appropriate. Part II, "Data Files and Special Tabulations", provides a listing of new public-use computer tape files; tabulations on microfilm, microfiche, or unpublished printouts; and unpublished nonstatistical materials such as maps and computer programs. Part II also includes listings for the Bureau's confidential data files, which are not available to the public but from which special tabulations can be created.

The abstracts in the Catalog are indexed twice, once according to geographic terms, the other according to subjects mentioned in the title of the report or, to a lessor extent, in the description. (Indexes in catalogs prior to 1976 covered only Part I entries) The Catalog also features special sections. "Selected Publications of Other Agencies" lists a number of reports based on data collected by the Bureau of the Census for other Federal agencies and selected Congressional hearings and reports relating to Census Bureau work. Listings in "Selected Papers by Staff Members" in each annual issue treat a variety of trend, methodological, or data-availability issues. Occasional appendices have provided consolidated lists of publications for 1972 Economic Censuses (1975 annual), the 1970 census (1974 annual), and the 1969 Census of Agriculture (1974 annual).

2. Advantages and Disadvantages - As a reference tool the preeminent advantages of the Catalog are its comprehensiveness and its regular updating. At the same time, since the Catalog is not cumulative from year to year, the most recent issue may not include the desired reference - it frequently is necessary to search back issues of the annual Catalog until you find the one covering the appropriate date of publication.

   As with other bibliographic guides, the Catalog seldom has specific descriptions of data tables. Catalog abstracts generally only list broad subjects covered in each report, a fact which is especially limiting with regard to general-purpose reports covering many subjects in various combinations. Subject indexes in the Catalog, and in the catalog-type publications described below, give primary attention to subjects cited in report titles and thus are not comprehensive with regard to subjects covered in reports. Catalog index entries have little or no cross-referencing of related terms as one finds in the 1970 census indexes cited above. Catalog abstracts describe individual reports and do not describe multi-year series in their full context.

3. Timing and Acquisition - Quarterly catalog issues typically become available about three months after the end of their reference period. Brief Catalog supplements are issued each month with less lag time, providing titles of new reports without any descriptive material. The Catalog is available by subscription ($14.40 per year, GPO, C3.163/2:). Back issues of the annual Catalog are separately priced ($3.40 for the 1975 annual, GPO, C3.163/3:975) and may be available from either GPO or the Census Bureau.

B. Bureau of the Census Catalog of Publications, 1790-1972

At the opposite extreme from the one-year coverage of the regular catalog is the 182-year historical catalog. The volume is actually two publications in one: a reprint of the Catalog of United States Publications, 1790-1945, published in 1950 and listing all materials issued by the Census Bureau and its predecessor organizations starting with the first

census report of 1790; and a new Census Catalog of Publications, 1946-1972, describing more than 60,000 reports issued by the Bureau from 1946 to the end of 1972.

The more recent part of the historical catalog provides summaries in a form similar to that of the annual Catalog, though more abbreviated, with only titles given for reports in lengthy series such as Current Population Reports. Complete titles, series designations, and dates of issuance are given, but prices are omitted, since most of the earlier reports are no longer available except in libraries, and since quite a few of those reports still available have been repriced at GPO. The historical catalog does not include any descriptions of unpublished materials, as in Part II of the annual Catalog. The practical utility of the historical catalog is that it can be used in lieu of searching individual annual catalogs to summarize reports issued before 1973, especially from the 1960 and earlier decennial censuses. (DAD No. 39 provides a more complete summary of 1970 census reports.) The historical catalog also contains a systemetic listing of Current Population Reports titles back to their beginning. ($7.10, GPO, C56.222/2-2:790-972)

C. Bureau of the Census Guide to Programs and Publications: Subjects and Areas, 1973

The Guide to Programs and Publications presents publication abstracts similar in scope to those in the Catalog, covering reports issued 1968 to 1972. The format of the Guide is different, however, using a tabular form which emphasizes geographic areas covered and series designations. Brief text introduces each topical section (e.g., agriculture, governments, housing) with an overview of the major programs. Unlike the Catalog, the Guide does not include individual titles within certain series, such as Current Population Reports, the emphasis being more on the general nature of the series. ($2.45, GPO, C56.208:P94.)

D. Directory of Federal Statistics for Local Areas: 1976

This Directory is a new edition (to be published in mid-1977) of a reference last published in 1967. It is considerably different from the catalog-type references listed above in both scope and specificity. By definition it covers only those statistics available for areas smaller than States (e.g., SMSA's, counties, cities, and specialized areas such as flood control districts or National parks). It references not only Census Bureau publications but also those of 33 other Federal agencies. Only published data are covered in the Directory.

As illustrated in figure 9.2, Directory listings describe individual tables in data reports usually with specific references to data categories, a feature which distinguishes the Directory from the otherwise detailed indexes to 1970 census data discussed in the previous section, which merely list the number of categories for each variable. On the other hand, the Directory lacks the cross-referencing features which make the indexes unique and efficient for the data they cover. The preeminent virtue of the Directory is its coverage of sub-State data from a wide range of Federal sources, not just the Census Bureau.

Figure 9.2 Illustrative Entries From the "Directory of Federal Statistics for Local Areas"

(Publication draft, subject to minor revision)

Subject	Tabular Detail	Areas to Which Data Apply	Frequency	Sources (See Bibliography, pp. 000-000.)
Type of family	Families: Total; white; black; Spanish heritage All families; husband-wife; with female head With own children under 6, 18 years	SMSA's; central cities; urban balance; urbanized areas; counties; places of 10,000 or more; places of 10,000 or more and counties with at least 400 people of Spanish heritage; State economic areas	Years ending in 0	12. *Population Census,* V.1B, Parts 2 to 52, Individual State reports, tables 25, 29, 36. 00. V.1C, Parts 2 to 52, Individual State reports, tables 96, 112, 129. 00. PC(2)-10B, tables 1, 2, 3. Census Bureau.
	Families: Total husband-wife; with female head: With own children under 6, 18 years Each of the above applies to:			
	American Indians	SMSA's, reservations, and tribes with 2,500, 2,300, and 3,800 American Indians, respectively	Years ending in 0	26. *Population Census,* PC(2)-1F, table 11. Census Bureau.
	Blacks	SMSA's with 100,000 and cities with 50,000 or more blacks	Years ending in 0	22. *Population Census,* PC(2)-1B, table 11. Census Bureau.
	Chinese, Filipinos, Japanese	SMSA's and cities with 5,000 or more of each group	Years ending in 0	22. *Population Census,* PC(2)-1G, tables 26, 41, 11. Census Bureau.
	Koreans, Hawaiians	SMSA's with 5,000 or more of each group	Years ending in 0	*Ibid.*, tables 48, 46.
HEALTH AND VITAL STATISTICS				
Births	Live births: Number; rate per 1,000 population	50 largest SMSA's and their component counties	Annual	137. *Vital Statistics of the U.S.,* V.I., *Natality,* table 1-46. Public Health Service.
	Illegitimate births By race: White: black By age of mother, in 13 age groups	Urban places of 50,000 or more in 38 reporting States and the District of Columbia	Annual	*Ibid.*, table 1-70.
Professional care	Physician visits; dental visits: In 4 age groups Number per year Number per person per year Number of persons with one or more visits within a year Percent of persons with one or more visits with a year	8 largest SMSA's	Irregular	206. *Health Characteristics by Geographic Region, Large Metropolitan Areas, and Other Places of Residence: U.S. 1969-70,* tables 14, 16, 17, 18. Public Health Service.

Other publications in the directory series -- Directory of Federal Statistics for States, 1967 and Directory of Non-Federal Statistics for States and Local Areas, 1969 complement the one cited above, but in some cases their information is now out of date.

E. Data User News

This monthly publication is the Bureau's newsletter for data users. Its articles cover a wide range including reports just issued, new data programs being developed, available computerized data files and programs, planning for upcoming censuses, announcement of seminars and exhibits, and answers to user questions. Significant reports, programs or applications related to census data but developed by data users are also occasionally described in a "Reader's Exchange" section. A regular monthly feature is "Selected New Publications" providing titles for reports just off the presses. (Prior to 1975 this publication was entitled Small Area Data Notes)

Two supplements to Data User News are occasionally sent to subscribers:

- "Telephone Contacts for Data Users" lists key professionals at the Census Bureau whose areas of expertise may be of interest to data users. Specific names and phone numbers are given.

- "1980 Census Update", issued for the first time in January 1977, describes the various developments as planning for the 1980 census proceeds.

Data User News is available on a subscription basis. ($4.00, BC) Single copies of specific issues cited in this manual are available without charge from the Data Access and Use Staff, Data User Services Division, Bureau of the Census, Washington D.C. 20233.

F. Mailing List of Publications Order Forms

Many, if not most, Census Bureau publications are announced through simple descriptive fliers which include an order form. These fliers are distributed at conferences and exhibits and are also automatically sent without charge to an order-forms mailing list. At the present time the mailing list is not segmented by field of interest, so the subscriber receives fliers for all census publications. To get on the mailing list write the Subscriber Services Section, Bureau of the Census, Washington, D.C. 20233.

G. American Statistics Index (ASI)

The ASI is the product of a private company, the Congressional Information Service, but may be of interest to users for its fairly comprehensive coverage of Federal statistical publications, although it does not offer the precision in accessing Census Bureau data of the references described above. The ASI is fairly expensive but is available in many major libraries. The Congressional Information Service also republishes on microfiche each of the publications it indexes, a feature which can be significant in cases where the statistical publication is not readily available from GPO or the originating agency.

Section III: STATISTICAL COMPENDIA

The Bureau of the Census issues several compendia designed to provide convenient access in compact form to statistical information on a wide variety of subjects from a variety of sources. The program consists primarily of the Statistical Abstract of the United States and other compendia which are technically considered supplements to the Abstract. The Abstract stresses current information at the national level; the supplements extend the scope geographically and historically. The recent graphic publication STATUS also serves the compendium function of bringing together in a single source representations of a broad cross-section of statistics. All of these reports include not only statistics produced by the Bureau of the Census but also those of many other organizations, both governmental and private.

A. Statistical Abstract of the United States

This compendium, published annually since 1878, presents the widest variety of statistics, mostly at the national level, compiled from the publications and records of more than 100 government organizations, over 100 private groups, and several international organizations. The statistics appear in over 1400 statistical tables, charts, and maps. A guide to sources lists more than 800 publications where additional statistics can be found, and for this reason the Abstract is used by many as a guide to other statistical publications and sources. Tables in the Abstract are fully indexed. Each year's Statistical Abstract becomes available late in the nominal year. The Abstract is sold in hardback or softcover by GPO. (1976 Statistical Abstract:1025 pp., $10.50 clothbound GPO Stock No. 003-024-01173-5, $8 paperbound GPO Stock No. 003-024-01174-3) A private publisher, Grosset and Dunlop, republishes the Abstract under the title U.S. Fact Book: The American Almanac, and sells it in bookstores for substantially less than the GPO price.

B. County and City Data Book: 1972

The County and City Data Book (CCDB) is issued generally once every five years, the most recent dated 1972. Data are presented for all counties, cities of 25,000 population or more, SMSA's, urbanized areas, census regions, divisions, and States. Data from the most recent censuses are presented - the 1972 edition contains selected data from the 1970 Census of Population and Housing, the 1967 Economic Censuses, the 1967 Census of Governments and the 1969 Census of Agriculture - along with data from other sources on vital statistics, presidential vote, banking, building permits, crime, hospitals, and climate. The book also includes certain maps, explanatory notes and source citations, and appendices that expand or explain the coverage of the tables. (1020 pp., $18.65, GPO C56.243/2:C83/972)

Data contents of the 1972 CCDB are also available on computer tape in an easy-to-use format. Four earlier CCDB's (1952, 1956, 1962, and 1967) are also available on tape or punchcards. In many cases these are the only data from various sources available in public-use computerized form.

C. Metropolitan Area Statistics

This booklet, issued annually through 1975, has been a reprint from the Statistical Abstract presenting data for SMSA's of 200,000 population or more. The data cover most of the same subjects included in the County and City Data Book, but there are two significant differences. Since Metropolitan Area Statistics was issued annually it may contain certain data from more recent sources than the CCDB. Second, the 1972 CCDB provides data for SMSA's according to their boundaries for the 1970 census, whereas Metropolitan Area Statistics recognizes new SMSA's of 200,000 population or more, and new boundaries where SMSA's have been redefined since 1970. It is, for instance, the only convenient summary of 1970 census data for SMSA's as redefined since 1970. (1975 Edition: 80 pp., $1.05, GPO)

Beginning with the 1976 Statistical Abstract, the Metropolitan Area Statistics section has been dropped and will be replaced by a separate publication entitled State and Metropolitan Area Data Book, to be published once every two years, beginning in 1978. The new book will include data for all SMSA's (not just those of 200,000+ population), as well as for States, regions, and divisions. The new format will allow a substantial expansion in the number and range of data items presented.

D. Congressional District Data Book, 93rd Congress

A Congressional District Data Book (CDDB) is issued only once a decade, after each decennial census of population and housing. The current CDDB provides data for Congressional districts defined for the 93rd Congress (1973-74), and for places with 10,000 inhabitants or more in each district. The CDDB contains primarily 1970 census data plus a few recent election statistics. One-page maps show the outline of Congressional districts within each State. These data were initially issued in separate reports for each State in the CDD-93 series. For the three States which were redistricted for the 94th Congress, new reports were issued in the series CDD-94. No further changes in districts were made for the 95th Congress (1977-78). (550 pp., $12.70, GPO, C56.243/2:C76/973)

E. Historical Statistics of the United States, Colonial Times to 1970

Third in a series of volumes begun in 1949, this new edition presents more than 12,500 national time series (most annual) covering various periods from 1610 to 1970, and organized into 24 chapters and 50 subchapters. The text of the compendium cites specific and related sources of information, defines technical terms, and discusses the qualifications, development, and reliability of the data. A time-period index enables users to quickly identify a time series beginning in a specified 10-or 20-year time segment. An alphabetical subject index leads users to the text and tabular pages of their special interests.

Data for years after 1970 are presented for many of the series in annual issues of the Statistical Abstract of the United States. A special historical appendix in each Abstract, beginning with the 1975 edition, links the historical series to specific Abstract tables.

The overwhelming majority of time series are presented only at the national level. Only a few chapters provide selected series for individual States. These include voter participation in presidential elections by State, and population census data collected in the colonies and States during the colonial and pre-Federal period. (1298 pp., $26, GPO, C3.134/2: H62/970)

F. Bicentennial Statistics

Bicentennial Statistics presents some of the highlights from Historical Statistics in a pocket-sized paperback. Embellished with 36 charts displaying trends over the last 200 years, Bicentennial Statistics covers subjects from colonial population to advances in communication and transportation, with statistics on the great depression, American wars and even the pony express. (76 pp., 90¢, GPO, Stock No. 003-024-01254-6)

G. Pocket Data Book, USA

Every two or three years selected data are condensed from the Statistical Abstract into a "pocket-size" book. It includes a summary section with graphic figures and narrative commentary highlighting current trends. Most data are for the U.S.; a few tables show data for States, SMSA's, and cities. The 1976 edition includes, as a special section, the same historical material as is provided in Bicentennial Statistics, described above. (To be issued in early 1977.)

H. Recent Trends

This is an annual reprint of the "Recent Trends" section of the Statistical Abstract. It contains a cross section of data at the national level since 1960. (1976 edition: 16 pp., 35¢, GPO Stock No. 003-024-01253-7)

I. USA Statistics in Brief

This is a pocket-sized foldout abbreviation of "Recent Trends" which also contains selected estimates for States. (1976 edition: 35¢, GPO Stock No. 003-024-01250-2)

J. STATUS

STATUS was an experimental monthly chartbook of social and economic trends, published July to October, 1976. Each issue consisted primarily of charts, reproduced in color, of recent trends in the population and in the economy. Each issue contained updates of certain standard indicators such as gross national product, employment, personal income, and the consumer price index. Other topics varied from issue to issue, occasionally highlighting such subjects as population projections, characteristics of women, voter participation, or criminal justice expenditures. Most charts represented data at the National level, but one or more data display maps were also included. Since the chartbook covered the full range of Federal statistics it may be thought of as a graphic supplement to the Statistical Abstract, a compendium of statistics in its own right.

Because it was quite expensive to publish, STATUS has been suspended at least until late 1977, while the response to the first four issues is evaluated. At this writing a few copies of the September and October 1976 issues of STATUS were still available ($3.60 each, B.C.)

Section IV: REFERENCES RELATED TO THE BUREAU'S ECONOMIC PROGRAMS

This manual has concentrated on the Bureau's major programs producing statistics about the characteristics of people and their housing, data primarily collected through household censuses and surveys. The Bureau also collects other data series in which the units of data collection or reference are business or industrial establishments, governments, or farms. Although basic descriptive material on these data sources are beyond the scope of this manual the following references may be useful. Publications from each of the economic programs are also abstracted in each of the general reference sources discussed in Section II.

A. Descriptive Guides

1. Mini-Guide to the 1972 Economic Censuses.- This booklet describes in general terms the data and publication programs for each of the economic censuses: of retail trade, wholesale trade, selected service industries, manufactures, mineral industries, construction industries, transportation, and outlying areas; and the enterprise statistics program. The introductory discussion of the Standard Industrial Classification (SIC) System may also be of interest. (40 pp., $1.00, BC)

2. Data Access Description No. 38 "Current Survey Statistics Available from the Bureau of the Census". Already described on page 112 in connection with demographic surveys, DAD No. 38 also systematically covers each of the economic surveys which complement the economic census. (53 pp., $1.30, BC)

3. Guide to Transportation Statistics.- This booklet describes the three components of the 1972 "census" of transportation: the National Travel Survey, the Truck Inventory and Use Survey, and the Commodity Transportation Survey. For each survey there is a general description of survey design, selected tables, facsimiles of questionnaires and the availability of unpublished data. (88 pp., $2.00, GPO C3.62: T68)

4. Guide to Industrial Statistics, describing both census and survey data on manufactures and mineral industries, is scheduled for publication in 1977.

B. Samples of Data Tables

Several guides have very little textual information but provide one or more sample pages from each data table published, allowing the user to locate data of interest by browsing through the guide, then referring to the appropriate detailed report.

- Guide to the 1972 Census of Governments (278 pp., $5.00, GPO, C56.247/2:972/V.8)

- Guide to Recurrent and Special Governmental Statistics (208 pp., $3.20, GPO, C56.231:62)

- Guide to Foreign Trade Statistics: 1975 (208 pp., $4.05, GPO, C3.6/2:F76/975)

C. Procedural Histories

Procedural histories describe the planning, methodology, administrative aspects and publication program of the various censuses. Facsimiles of the various data collection forms are included.

- 1972 Economic Censuses Procedural History (471 pp., $8.50 (cloth-bound) or $6.00 (paperbound), GPO, C56.202:EC7/2/972)

- 1972 Census of Governments, Volume 9, Procedural History (277 pp., $3.45, GPO, C56.247/2:972/V.9)

- 1974 Census of Agriculture Procedural History (in preparation)

D. Computer Tape Documentation

Computerized summary data are available from several of the economic programs. Documentation or descriptive material may be requested through the Data User Services Division, Bureau of the Census, Washington D.C. 20233.

Section V: OTHER REFERENCES

A. Technical Papers and Working Papers

The Census Bureau publishes a number of methodological reports which may be of interest to others doing survey or research work. Earlier sections have cited procedural histories (p. 114) and evaluation reports (p. 84). Reports are also occasionally issued in the Technical Papers and Working Papers series. Titles of all Technical Papers and Working Papers are carried on the back cover of any recent report in either series. Recent reports include:

1. Technical Paper No. 27 "Sampling Applications of the 1970 Census Publications, Maps, and Public-Use Summary Files" describes use of census products in designing sample surveys for States, urbanized areas or smaller areas, using multi-stage sampling procedures. (16 pp., $0.25, GPO)

2. Technical Paper No. 34 "Indexes to Survey Methodology Literature" is one component of the Bureau's Survey Methodology Information System which abstracts and indexes a substantial part of all survey methodology literature. Bibliography and search requests from data users will be honored, generally providing more up-to-date material than

the Technical Paper, which covers primarily publications prior to 1970. Write the Statistical Research Division, Bureau of the Census, Washington, D.C. 20233. (Technical Paper No. 34: 236 pp., $3.60, GPO, C56.215/2:34)

3. Technical Paper No. 37 "The Census Bureau, A Numerator and Denominator for Measuring Change" documents a series of presentations at a seminar at the University of Southern California in 1974 featuring several key Federal officials and other experts, and dialogue with 20 master's and Ph. D. candidates in public administration. (197 pp., $4.25, GPO, C56.215/2:37)

4. Working Paper No. 39 "Population and Housing Inquiries in U.S. Decennial Censuses, 1790-1970" features a chart comparing items asked in the various censuses and reproduces the principal data collection forms used in each one. (179 pp., $2.50, BC)

B. Census Bureau Methodological Research

This is an annual annotated list of papers and reports prepared by Bureau staff members. Articles, conference papers, memoranda and other documents, dealing with topics from statistical theory to data processing, are cited and briefly described (1975 edition: 20 pp., 50¢, BC)

C. Methods and Materials of Demography, by Henry Shryock and Jacob Siegel

This comprehensive text deals with the sources, limitations, underlying definitions, and bases of classification of demographic data, as well as with techniques and methods that have been developed for summarizing and analyzing them. Actual statistics from both the United States and abroad are used to illustrate the derivation of the demographic measures. (Available in a 2-volume set from GPO for $15.75, SN 003-001-02289-3 or abridged in a single volume from Academic Press, New York, $16.50)

D. The Bureau of the Census, by A. Ross Eckler

Dr. Eckler, a former director of the Bureau, traces the history of censuses and the development of the Bureau and the Federal statistical system. Sampling developments, statistical research, relationships with other Federal agencies, recent legislative controversies, and other issues are also discussed. ($9.00 Praeger Publishers, New York)

E. Fact Finder for the Nation

This is the title of a new series of popular brochures introducing various broad Census Bureau programs, describing their products, and suggesting some of their uses.

Two brochures have been issued to date, on minority statistics (issued July 1976), and the availability of census records to individuals for proof of age (issued September 1976). Topics of future Factfinder brochures will

include population, housing and construction, retail and wholesale trade, selected services, manufactures, minerals, foreign trade, transportation, agriculture, governments, geographic tools, and references sources. There will also be a brochure on the Bureau's history and organization that traces the development of each of the subject areas.

Factfinders are designed to provide a general and nontechnical overview of available data and services. The inclusion of graphics and data tables from relevant reports help acquaint the reader with the data being described. Factfinders are designed for distribution at exhibits, to schools and libraries, and in response to general inquiries. (25¢ each, BC)

(Factfinder for the Nation has been a popular title. This series should not be confused with a 62-page booklet issued in 1970 but now out of print, a slide show and a 16 mm movie, all with the same name.)

F. Social Statistics in Use, by Philip M. Hauser.

This volume is a compendium of articles written by experts in each of 15 fields: population; births, deaths and health; marriage, divorce and the family; education; labor force; social security and welfare; delinquency and crime; consumption and the consumer; housing and construction; transportation and land use; outdoor recreation; governments; elections; public opinion polls; and social indicators. Most chapters have sections on uses and users of the data and on future prospects for new data. Since different experts contributed the various chapters there is some variation in the structure and specificity of the material; and in some fields there are major new data sources which are not reflected in the corresponding chapters (e.g., the National Crime Survey; the Annual Housing Survey). Nonetheless this work provides a unique and readable overview of the broad range of Federal social statistics available, and in many cases the data are discussed in the context of why they are collected and what they are useful for. (385 pp., $12.50, Russell Sage Foundation, New York)

G. Census Curriculum Support Project (CCSP)

The Census Bureau is developing a set of materials about census data to be used in college-level or other classes in a wide variety of disciplines. As of this writing the materials concentrate on the 1970 Census of Population and Housing and related programs of population estimation and current surveys of population and housing. The project is to eventually also include instructional materials on Census Bureau statistics about business and industrial establishments, foreign trade, government employment and finance, and so forth. The Bureau has a free mailing list for instructors interested in the project, who will receive a sample kit of CCSP materials and be notified as any other materials are developed for classroom use. Write to the Census Curriculum Support Project, Data Access and Use Staff, Data User Services Division, Bureau of the Census, Washington, D.C. 20233 (Phone 301/763-7368). Project materials include the following:

1. A Students Workbook on the 1970 Census is a general introduction to the 1970 Census of Population and Housing and covers subjects, geographic areas, reports, tapes, and microfilm/fiche. The Student Workbook can be used for self-instruction and includes text, reference charts, and exercises to familiarize students with census geography and subjects collected, and to help them learn to read tables and locate desired data items in the 1970 census. The workbook also briefly mentions sources of data estimates available since 1970. The workbook is designed for use by introductory-level students. (22 pp., 55¢, GPO, Stock No. 003-024-01223-5)

2. Teacher's Guide: Approaches to Census Data provides the instructor with a general orientation toward teaching about census data, with a statement of teaching unit objectives, a description of the various materials available to classes, a sampler of uses of census statistics, and several suggestions for class activities which involve students in census data use. Also included is a summary of free or inexpensive brochures on selected topics available to instructors and their classes. (25 pp. Free from the Data Access and Use Staff, see address above).

3. Case studies are being developed to put census data in a practical context. They help the student practice finding, compiling, and drawing conclusions from census data. Though primarily designed for self-study, the case studies can be adapted for classroom presentation. Two titles are currently available: "Case Study: The Location of a Playground" (24 pp., free in limited quanties) and "Case Study: Migration Patterns of Southerners"(26 pp., single copies free).

4. Reference materials have been developed to complement the project, most notably this manual which was originally designed to facilitate the preparation of classroom lectures and to efficiently answer student questions. Participating instructors also receive selected other references and brochures as appropriate.

H. Acquisition Information for Miscellaneous Other Reports Referenced in this Manual

1. Census Tract Memorandum No. 17, April 1974 (referenced on p. 25) 29 pp. 50¢, BC.

2. Census USA, 1974 (referenced on p. 1) 10 pp., Free. Data User Services Division (DUSD), Bureau of the Census, Washington D.C. 20233.

3. "Computer Program Interchange," August 1975 (reference on p. 66) 9 pp., Free, DUSD.

4. Evaluation and Research Program PHC(E)-1, "The Quality of Residential Geographic Coding," January 1973. (referenced on p. 44) 15 pp., $0.40, GPO. Other titles in this series are listed in Data Access Description No. 39, p. 23.

5. Geographic Identification Code Scheme PHC(R)-3 (referenced on p. 65) April, 1972; Part 1, Northeast ($1.00); Part 2, North Central ($1.75); Part 3, South ($1.50); Part 4, West ($0.60) GPO, C3.2:PHC(R)-3/970 part__.

6. Measuring Markets: A Guide to the Use of Federal and State Statistical Data, August 1974 (referenced on p. 135) 71 pp., $1.35, GPO.

7. Standard Metropolitan Statistical Areas, 1975, March 1975 (referenced on p. 22) 108 pp. with foldout map, $2.30, GPO Stock No. 041-001-00101-8.

8. "Summary Tape Processing Center Address List", February 1977 (referenced on p. 56) 6 pp., Free. DUSD

Figure 9.3 Data Access Description (DAD) in Current Use

DAD No.	Date of issue	Title
13	March 1970	First Count Summary Tapes From the 1970 Census of Population and Housing, 25 cents
14	March 1970	Items Contained in the 1970 Census of Population and Housing, 25 cents
15	April 1970	Contract Block Statistics Program, 25 cents
18	June 1970	General Information About Summary Tapes, 25 cents
19	August 1970	Printed Reports From the 1970 Census—Housing, Volume II, 25 cents
20	November 1970	Availability of Place of Work Data in the 1970 Census, 25 cents
21	December 1970	Census Bureau Unpublished Data and Special Services: Policy and Delineation, 25 cents
22	March 1971	Fourth Count Summary Tapes From the 1970 Census of Population and Housing, 25 cents
24	May 1971	Public Use Samples of Basic Records From the 1960 and 1970 Censuses, 25 cents
25	July 1971	Third Count (Block) Summary Tapes From the 1970 Census of Population, and Housing, 25 cents
26	December 1971	Second Count Summary Tapes From the 1970 Census of Population and Housing, 25 cents
27	January 1972	Printed Reports From the 1970 Census of Population and Housing, 25 cents
28	May 1972	Delineation of Problem Housing Areas, 25 cents
29	May 1972	Low-Income Data From the 1970 Census, 25 cents
30	August 1972	Sixth Count Summary Tapes From the 1970 Census of Population and Housing, 25 cents
31	November 1972	Printed Reports Issued by the Bureau of the Census for Economic, Governments, and Agriculture Censuses, 25 cents
32	May 1973	Subject Reports From the 1970 Census of Population and Housing, 50 cents
33	August 1973	1970 Census Geography: Concepts, Products, and Programs, 50 cents
34	February 1974	Transportation Statistics Available From the Bureau of the Census, 50 cents
35	February 1974	1960 Census of Population and Housing: Availability of Published and Unpublished Data, 50 cents
36	December 1974	1970 Census Fifth Count for ZIP Codes, Counties, and Smaller Areas, 50 cents
37	December 1974	Microdata from the Current Population Survey—The Annual Demographic File, 50 cents
38	July 1975	Current Survey Statistics Available From the Bureau of the Census, $1.30
39	August 1975	Reports Related to the 1970 Census of Population and Housing, 55 cents
40	May 1975	Data on Selected Racial Groups Available From the Bureau of the Census, $1.00
41	May 1975	Data on the Spanish Ancestry Population Available From the 1970 Census, of Population and Housing, 50 cents

Copies may be ordered from Subscribers Services (Publications), Bureau of the Census, Washington, D.C. 20233.

CHAPTER 10

FINDING SPECIFIC DATA

A number of pointers on how to find particular data have been provided throughout this manual. The purpose of this chapter is to bring these pointers together into a logical sequence of steps for approaching a particular data problem.

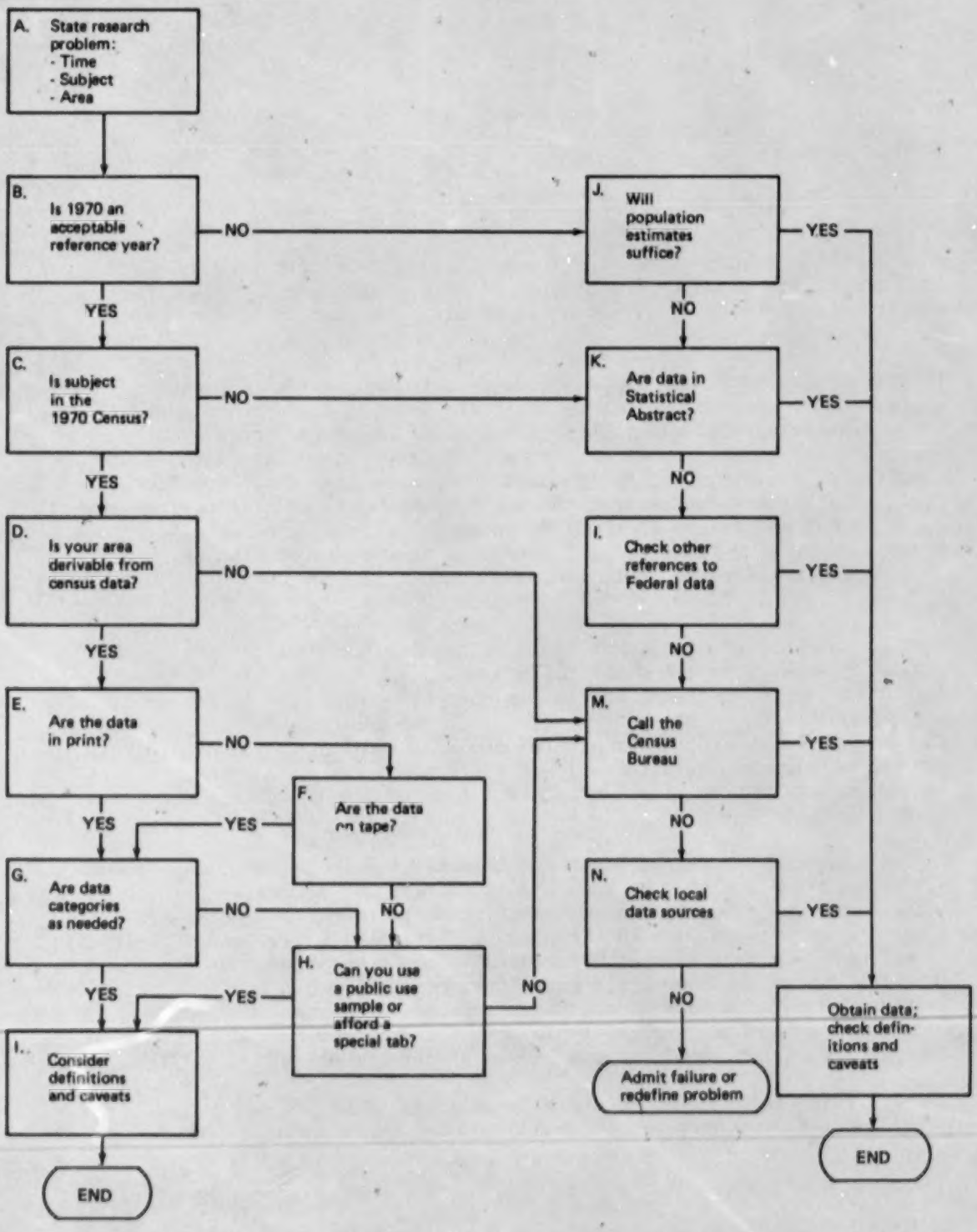
The first step in finding specific data is to define what you need. The "who, where, when" approach defines data requirements in terms of (1) subject matter or variables, (2) geographic area, and (3) time reference. Subjects or variables are terms used interchangeably to reflect the questions asked in censuses or surveys, or other concepts derivable from those questions (e.g., family size); the universe or scope of the data base may also be relevant (e.g., Armed Forces are in the 1970 census, but not in the Current Population Survey). The time reference frequently is reduced to whether or not 1970 is an acceptable reference year, since so much small-area data are available for 1970, but very little exist for more recent years.

Finding data becomes easier as familiarity with the publication program increases. Thus, a review of Chapters 4 and 8 may be in order, with particular attention to reference charts. Figure 4.3 on page 40 is especially useful in developing an understanding of what geographic areas are covered in the various major report series from the 1970 census. The experienced user may not necessarily have to follow the steps defined here in the prescribed sequence, but this outline is representative of the thought processes required.

The various steps outlined below are oriented toward locating data about people and housing units. For data about business or industrial firms or their output, about agriculture, governments, construction, foreign trade, etc., check the references cited in Chapter 9, Sections II, III, and IV. It may be noted, however, that some information about businesses and other economic entities can be obtained or inferred from population and housing data; for instance, the income and other characteristics of farmers and self-employed businessmen, and the level of employment and employee characteristics in the various industries or at various levels of government, etc.

The following sequence arbitrarily assumes that data are desired in printed form, but that computerized media can be used if necessary.

Figure 10.1 Abbreviated Flowchart of Data Finding Steps



Step by Step Data Finding Sequence

A. State the research problem in terms of the desired subjects, geographic area(s), and time reference.

B. Is 1970 an acceptable reference year? If not go to J.

C. Were the subjects of interest collected in the 1970 census? Check the "Cross-Reference Guide" in the Index to Selected 1970 Census Reports; or read through the concept definitions in the "Census Users Dictionary" of the 1970 Census User's Guide, Part I, or in Appendix B's in the PC(1)-C (or-D) and HC(1)-B reports. Data Access Description No. 14 "Items Contained in the 1970 Census of Population and Housing" or the 1970 Informational Questionnaire may also help.

1. If the variable was in the 1970 census, skip to D.

2. If the variable was not collected:

   a. Can you alter your requirements to fit what exists?

   b. Check other data sources. Skip to K.

D. Are data tabulated for the type(s) of geographic area you need? (Check your comprehension of definitions of different types of statistical areas with Chapter 3.)

1. If yes, check appropriate maps for definitions of specific urbanized areas, unincorporated places, tracts, enumeration districts or blocks, if applicable. (Sources for maps are given in Chapter 3 and in Data Access Description No. 33 "1970 Census Geography.")

2. If the census does not recognize the desired geographic area:

   a. Can you define your area as an aggregate of counties, census tracts, enumeration districts or block groups, or census blocks?

   b. Can you alter your requirements to fit what exists?

E. Are the data items available in print for the areas you desire?

1. Scan the Table Finding Guides for PC(1) and HC(1) on pages 136 to 139; - OR if data are desired for the following areas, go directly to the corresponding reports:

   Blocks - HC(3)
   Census Tracts - PHC(1)
   County Subdivisions (MCD's/CCD's) - PC(1)-B table 32 or Fifth Count Microfilm (see page 75)

Congressional Districts - PC(1)-A table 15, or the Congressional District Data Book, 93rd Congress (see page 120)
Towns in New England - (see Table Finding Guide entries for places)

2. Use the Index to Selected 1970 Census Reports, according to the method outlined in its introduction. Pay particular attention to the cross-reference guide (see figure 9.1, page 113.) If successful, skip to G.

3. For subject reports, refer to figure 4.4 (page 41) and to Data Access Description No. 39 "Reports Related to the 1970 Census," figures 4 and 6. For supplementary reports refer to the lists in DAD No. 39 figures 5 and 7, noting especially those denoted with a "+" or "*". If successful, skip to G.

F. Are the data items available on summary tapes for the areas you desire?

1. First through Sixth Counts

Use the Index to 1970 Census Summary Tapes, noting especially its key to geographic areas (page 3 in the Index) and cross-reference guide.

If the summary tape index is not available use figure 4.3 on page 40 to determine which tapes have data for your area(s). Sample data items (see figure 2.1, page 6) are not available on the First, Second, or Third Counts. Obtain the Data Access Description or the documentation for the applicable files and search for tables of interest.

2. Subject Report Tapes

If the geographic area of interest is a State or group of States, and the specific data you require can be found at the U.S. level in one of the published subject reports listed on page 61, inquire to the Census Bureau (Customer Services Branch) about subject report tapes.

3. If still unsuccessful, skip to H.

G. Are the data categories as you need them (e.g., age groups, income categories, etc.)? Obtain the report or tape documentation and carefully check the data tables. Is the population being tabulated (universe) broad or narrow enough? (Watch for identations in table stubs--they usually indicate a subdivision within another variable.)

If data do not meet your requirements, retrace your steps through E and/or F again looking for other reports or tables. If you confirm that appropriate categories are present, skip to I.

H. If existing 1970 census tabulations do not meet your requirements:

1. Consider creating tabulations to your own specifications using the computerized public use samples, if your population or area of interest is fairly large (see Chapter 5, Section III), and skip to I.

2. Contact the Census Bureau to see if unpublished tabulations have already been created to meet your needs, or ask them about the cost of preparing a special tabulation to your specifications (very expensive). Go to M.

I. Are there caveats that apply to the data you have now found?

1. Recheck concept definitions in appendices to reports or in the "Census User's Dictionary" in the 1970 Census User's Guide.

2. Are the data subject to sampling variability? Most are. Compute confidence intervals as outlined beginning on page 85.

3. If you want to be thorough, check evaluation reports in the PHC(E) series or inquire from the Census Bureau if there are other limitations to the specific data of interest.

J. If the requirement is for population figures more recent than 1970, review Section I of Chapter 8 (page 95). Note that no Census Bureau estimates are available for census tracts or smaller areas.

K. Check the Statistical Abstract, which is fully indexed. If data are presented but are not sufficiently extensive, check the source cited for further detail. (If a Current Population Report is cited check Figure 8.2 for a more specific or more recent report reference). Many Abstract tables are cross-referenced to Historical Statistics of the U.S., Colonial Times to 1970 for time series data.

L. Other publications cited in Chapter 9 may help you locate desired data from Federal government sources, including especially:

Directory of Federal Statistics for Local Areas, 1976 (see page 116)

Bureau of the Census Catalog (see page 114)

Bureau of the Census Catalog of Publications, 1790-1972 (see page 115)

American Statistics Index (see page 118)

M. Data user services specialists at the Census Bureau are available to help you answer questions about locating and interpreting data, including data from sources not adequately covered by existing reference publications.

Census Bureau Headquarters:

Washington, D.C.	(301) 763-7454	Data Access and Use Staff Data User Services Division Bureau of the Census 20233
	(301) 763-2400	Customer Services Branch Data user Services Division Bureau of the Census 20233

Census Bureau Regional Offices:

Atlanta, Ga.	(404) 881-2271	1365 Peachtree St., NE, Rm 625 30309
Boston, Mass.	(617) 223-0668	441 Stuart St., 10th Floor 02116
Charlotte, N.C.	(704) 372-0711 Ext. 351	230 South Tryon St., Rm. 800 28202
Chicago, Ill.	(312) 353-7925	55 E. Jackson Blvd., Suite 1304 60604
Dallas, Tex.	(214) 749-2394	1100 Commerce St., Rm. 3C54 75202
Denver, Colo.	(303) 234-3924	575 Union Blvd., P.O. Box 25207 80225
Detroit, Mich.	(313) 226-7742	Washington Blvd. Bldg., Rm. 2100 48226
Kansas City, Kans.	(816) 374-4601	One Gateway Center, 4th & State Sts. 66101
Los Angeles, Calif.	(213) 824-7291	11777 San Vicente Blvd., 8th Floor 90049
New York, N.Y.	(212) 264-3860	Federal Office Bldg., Rm. 4102, 26 Federal Plaza 10007
Philadelphia, Pa.	(215) 597-4920	William J. Green, Jr. Federal Bldg., Rm. 9244, 600 Arch St. 19106
Seattle, Wash.	(206) 442-7800	Lake Union Bldg., 1700 Westlake Ave., North 98109

A list of "Telephone Contacts for Data Users" is available on request giving names and phone numbers for specialists on over 150 topics, of interest to users with specialized questions. Data User News subscribers automatically receive updated copies of the telephone contact list.

N. Check local or other non-Federal sources of statistics. Check with a major library (documents librarian); a city, regional or State planning agency; a chamber of commerce; or a relevant State agency (e.g., Department of Employment Security). In finding appropriate sources two references may be of use: Directory of Non-Federal Statistics for States and Local Areas, 1969 (out of print but available in libraries) and Measuring Markets.

Figure 10.2 Table Finding Guide for PC(1) Reports for States

This guide lists all subjects covered in this report, but does not indicate all cross-classifications (e.g., by age, race, or sex) or the historical data shown in some tables. An asterisk (*) indicates that the table presents data for Negroes exclusively; the symbol (†) means the table presents data for persons of Spanish heritage exclusively. Data on allocation rates appear in chapter B, tables B-1 to B-5, and chapter C, tables C-1 to C-4.

(For the U.S. Summary (PC(1)-1) use the table finding guide contained therein.)

Table No.	Report (Chapter)
1 - 15	PC(1)-A
16 - 39	PC(1)-B
40 - 137	PC(1)-C
138 - 216	PC(1)-D

Subject	The State		Metropolitan-nonmetropolitan residence	Standard metropolitan statistical areas Places of 50,000 or more (or central cities) Urbanized areas	Places with fewer than 50,000	Counties
	Total	Urban Rural nonfarm Rural farm Size of place				
NUMBER OF INHABITANTS	1,2,4,5,14,15	1,3,5	4	6-8,10-14	6-8,10	9,10†
SUMMARY CHARACTERISTICS	16	16	–	16,40,41	16,32,40-42	16,33†,43,44
GENERAL AND SOCIAL CHARACTERISTICS						
Age:						
Single years of age	19	–	–	–	–	–
Age groups	20,21,48,59,138	20,48,59,138	70	24,96†,138	28,31,112†	35,38,129†,134,136
Race	17,18,139	17,18	17	23	27,31	34,38
Nativity and parentage	45,49,60,138-142	49,60,138	71	81,138,140-142	102	119
Place of birth	45,50,61,140	50,61	72	82,91*,97†,140	102,108*,113*,117	119,125*,130†
Country of birth or country of origin	45,49,60,141,144	49,60	71	81,141,144	102	119
Mother tongue	49,60,142	49,60	71	81,142	102	119
Citizenship	143,144	–	–	143,144	–	–
Year of immigration	144	–	–	144	–	–
Residence in 1965	45,50,61,145	50,61	72	82,91*,97†	102,108*,113†,117	119,125*,130†
By selected classes of migrants	50,61,145,178	50,61	72	82	102	119
Year moved into present house	50,61	50,61	72	82	–	–
School enrollment	45,51,62,146,166,215	51,62,146,166,215	73	83,91*,97†,146, 166,215	103,108*,113†,117	120,125*,130†
By percent enrolled	51,62,146	51,62,146	73	83,91*,97†,146	103,108*,113†	120,125*,130†
Years of school completed	46,51,62	51,62	73	83,91*,97†	103,108*,113†,117	120,125*,130†,134,136
Persons 16 to 24 years old	147	147	–	147	–	–
Family heads	158	158	–	158	–	–
By age	52,63,148	52,63,148	74	84,148	103	120
By occupation	179	–	–	–	–	–
By income	197,202	197	–	197,202	–	–
By poverty status	211,216	211,216	–	211,216	–	–
Percent by level of school completed	51,62	51,62	73	83	–	–
Vocational training	51,62,149,150	51,62	73	83	–	–
Work disability	52,63,169	52,63	74	84,169	–	–
Veteran status	50,61,151	50,61	72	82	102	119
Marital status	22,152,155,165	22,152,155,165		26,152,155,165	30	37
Marital history	52,63,152,159,160	52,63,152	74	84,152	–	–
Fertility:						
Children ever born	46,52,63,161,162	52,63,161	74	84,91*,97†,161	103,108*,113†	120,125*,130†,134,136
Own children under 5 years old	52,63,163	52,63,163	74	84,163	–	–
Households and household relationship	22,39,48,59,153	22,48,59,153	70	25,26,39,96†,153	29-32,39,112†	33†,36-39,129†,134,136
Group quarters	22,48,52,59,63,154	22,48,52,59,63,154	70,74	25,26,84,96†,154	29-32,103,112†	33†,36-38,120,129†, 134,136
Inmates of institutions	22,48,52,59,63,154,155	22,48,52,59,63,154,155	70,74	25,26,84,96†,154,155	29-31,103,112†	36-38,120,129†,134,136
Families:						
By presence and number of own children under 18 years old	22,48,52,59,63,155,156	22,48,52,59,63,155,156	70,74	25,84,91*,96†,97†, 155,156	29,103,108*,112†, 113†	36,120,125*,129†,130†
By type and composition	22,48,52,59,63,155-158	22,48,52,59,63,155-158	70,74	25,84,91*,96†,97†, 155-158	29,103,108*,112†	36,120,129†
By characteristics of head and wife	158	158	–	158	–	–
By income	47,57,68,198-205	57,68,198-201,205	79	89,94*,100†,198-205	107,111*,116†,118	124,128*,133†,135,137
By poverty status	58,69,207-214	58,69,207-214	80	90,95*,101†,207-214	107,111*,116†,118	124,128*,133†,136,137
Subfamilies	52,63,155	52,63,155	74	84,155	103,108*,113†	120,125*,130†
Unrelated individuals	22,48,59	22,48,59	70	25,26,96†	29-31,112†	36-38,129†,134,136
By age	153	153		153	–	–
By marital status	155	155		155	–	–
By income	198,200,205	198,200,205	–	198,200,205	–	–
By poverty status	207,213	207,213		207,213	–	–

Figure 10.2 Table Finding Guide for PC(1) Reports for States—Continued

Table No.	Report (Chapter)
1 - 15	PC(1)-A
16 - 39	PC(1)-B
40 - 137	PC(1)-C
138 - 216	PC(1)-D

Subject	The State		Metropolitan-nonmetropolitan residence	Standard metropolitan statistical areas	Places with fewer than 50,000	Counties
	Total	Urban Rural nonfarm Rural farm Size of place		Places of 50,000 or more (or central cities) Urbanized areas		
ECONOMIC CHARACTERISTICS						
Labor force status	46,53,64,158,165	53,64,158,165	75	85,92*,98†,158,166	104,109*,114†,117	121,126*,131†,135,137
Employment status	46,53,64	53,64	75	85,92*,98†	104,109*,114†,117	121,126*,131†,135,137
By age	164,168	164,168	–	164,168	–	–
By school enrollment	166	166	–	166	–	–
For males 16-21 not attending school	51,62	51,62	73	83,92*,98†	104,109*,114†,117	121,126*,131†,135,137
By income	196,201	196,201	–	196,201	–	–
By poverty status	209	209	–	209	–	–
Hours worked	166	166	–	166	–	–
Weeks worked in 1969	46,67	67	78	88,92*,98†	104,109*,114†,117	121,126*,131†
By age, race, and sex	56,167	56,167	–	167	–	–
By occupation or industry	172,185,210	210	–	172,185,210	–	–
By income or poverty status	195,201,210	195,201,210	–	195,201,210	–	–
Year last worked	168,172,186	168	–	168,172,186	–	–
Occupation:						
By detailed classification	170,171	171	–	171	–	–
By age	174	–	–	174	–	–
By years of school completed	179	–	–	–	–	–
By employment characteristics	46,54,65,172	54,65	76	86,93*,99†,172	105,110*,115†,118	122,127*,132†,135,137
By industry	177,180,181*,182†	–	–	180	–	–
By class of worker	173	–	–	173	–	–
By earnings or income	175-177,203	–	–	175,176,203	–	–
By poverty status	210	210	–	210	–	–
By occupation 5 years ago	178	–	–	–	–	–
Of experienced unemployed	56,67	56,67	78	88,94*,100†	106	123
Industry:						
By detailed classification	183,184	–	–	184	–	–
By age	187	–	–	187	–	–
By employment characteristics	47,55,66,185	55,66	77	87,94*,100†,185	106,110*,115†,117	123,127*,132†,134,1[illegible]
By occupation	177,180,181*,182†	–	–	180	–	–
By class of worker	186	–	–	186	–	–
By earnings or income	177,188,189,204	–	–	188,189,204	–	–
Class of worker	56,67,173,186,191	56,67	78	88,92*,98†,173,186	104,109*,114†,118	121,126*,131†
Activity 5 years ago	56,67,145,178	56,67	78	88,92*,98†	104,109*,114†	121,126*,131†
Place of work	50,61,191	50,61	72	82,190	102	119
Means of transportation to work	50,61	50,61	72	82,190	–	–
Income in 1969:						
Persons	47,57,68	57,68	79	89,94*,100†	107,111*,116†,118	124,128*,133†,135,137
By general characteristics	192,193	192,193	–	192,193	–	–
By family status	194	194	–	194	–	–
By years of school completed	197	197	–	197	–	–
By employment characteristics	195,196	195,196	–	195,196	–	–
Families	47,57,68	57,68	79	89,94*,100†	107,111*,116†,118	124,128*,133†,135,137
By family type and composition	198-200	198-200	–	198-200	–	–
By years of school completed	202	–	–	202	–	–
By employment characteristics	201,203,204	201	–	201,203,204	–	–
By type of income	57,68,205	57,68,205	79	89,94*,100†,205	107,111*,116†,118	124,128*,133†
Unrelated individuals	47,57,68,198,200,205	57,68,198,200,205	79	89,94*,100†,198,200,205	107,111*,116†,118	124,128*,133†,135,137
Households	206	206	–	206	–	–
Earnings in 1969:						
By occupation	57,68,175-177	57,68	79	89,93*,99†,175,176	106,110*,115†	122,127*,132†
By industry	177,188,189	–	–	188,189	–	–
By place of work	191	–	–	–	–	–
By weeks worked	195,201	195,201	–	195,201	–	–
Poverty status in 1969:						
Persons	58,69,207,215,216	58,69,207,215,216	80	90,95*,101†,207,215,216	107,111*,116†,118	124,128*,133†,135,137
Families:						
By characteristics of head	58,69,207-214	58,69,207-214	80	90,95*,101†,207-214	107,111*,116†,118	124,128*,133†,135,137
By presence or number of children under 18	58,69,208,213,214	58,69,208,213,214	80	90,95*,101†,208,213,214	107,111*,116†	124,128*,133†
By employment characteristics	209,210	209,210	–	209,210	–	–
By type of income	212	212	–	212	–	–
Unrelated individuals	58,69,207,213	58,69,207,213	80	90,95*,101†,207,213	107,111*,116†,118	124,128*,133†,135,137
Households	58,69	58,69	80	90,95*,101†	107,111*,116†	124,128*,133†

† Presents data for county subdivisions.

Figure 10.3 Table Finding Guide for HC(1) Reports for States

This guide lists all subjects covered in this report but does not include all cross-classifications; for example, by tenure. An asterisk (*) indicates that data are shown for housing units with Negro head of household; the dagger symbol (†) means that the data are shown for housing units with household head of Spanish heritage. Data on allocation rates appear in tables A-1 to A-3 and B-1 to B-3.

Table No.	Report (Chapter)
1 - 30	HC(1)-A
31 - 83	HC(1)-B

(For the U.S. Summary (HC(1)-1) use the table finding guide contained therein.)

Subject	The State			Standard metropolitan statistical areas		
	Total Inside SMSA's Outside SMSA's	Urban Rural[1]	Rural nonfarm[2] Rural farm[2]	Total Central cities Urban balance	Total Constituent counties	Urbanized areas
SUMMARY CHARACTERISTICS	1, 5*, 31, 38*	1, 5*, 31, 38*	31, 38*	1, 5*, 31, 38*	-	-
TOTAL HOUSING UNITS	2, 6*	2, 6*, 32, 39*	32, 39*	8, 11*, 69†	13, 16*, 72†	8, 11*, 69†
TOTAL POPULATION	2, 6*	2, 6*, 32, 39*	32, 39*	8, 11*, 69†	13, 16*, 72†	8, 11*, 69†
OCCUPANCY CHARACTERISTICS						
Occupied housing units Tenure Population per occupied unit	2, 6*	2, 6*, 32, 39*	32, 39*	8, 11*, 69†	13, 16*, 72†	8, 11*, 69†
Cooperative or condominium	2	2, 32	32	8	13	8
Year moved into unit	36, 41*	36, 41*	36, 41*	44, 46*, 71†	49, 51*, 74†	44, 46*, 71†
VACANCY CHARACTERISTICS						
Vacant housing units	2	2	-	8	13	8
Homeowner vacancy rate Rental vacancy rate	2	2, 32	32	8	13	8
Duration of vacancy	4	4, 34	34	10	15	10
UTILIZATION CHARACTERISTICS						
Number of rooms Size of household (persons) Persons per room	3, 7*	3, 7*, 33, 40*	33, 40*	9, 12*, 70†	14, 17*, 73†	9, 12*, 70†
Bedrooms	37, 42*	37, 42*	37, 42*	45, 47*	50, 52*	45, 47*
PLUMBING CHARACTERISTICS						
Plumbing facilities Piped water Flush toilet Bathtub or shower	2, 6*	2, 6*, 32, 39*	32, 39*	8, 11*, 69†	13, 16*, 72†	8, 11*, 69†
Complete bathrooms Source of water Sewage disposal	35, 41*	35, 41*	35, 41*	43, 46*, 71†	48, 51*, 74†	43, 46*, 71†
STRUCTURAL CHARACTERISTICS						
Complete kitchen facilities	2, 6*	2, 6*, 32, 39*	32, 39*	8, 11*, 69†	13, 16*, 72†	8, 11*, 69†
Access	2, 6*	2, 6*, 32, 39*	32, 39*	8, 11*, 69†	13, 16*, 72†	8, 11*, 69†
Units in structure Mobile home or trailer Year structure built	2, 7*, 35, 41*	2, 7*, 35, 41*	35, 41*	8, 12*, 43, 46*, 71†	13, 17*, 48, 51*, 74†	8, 12*, 43, 46*, 71†
Basement	35	35	35	43	48	43
Elevator in structure	37, 42*	37, 42*	37, 42*	45, 47*	50, 52*	45, 47*
EQUIPMENT, FUELS, AND APPLIANCES						
Telephone available	2, 7*	2, 7*, 32, 40*	32, 40*	8, 12*, 70†	13, 17*, 73†	8, 12*, 70†
Heating equipment Air conditioning Automobiles available	36, 41*	36, 41*	36, 41*	44, 46*, 71†	49, 51*, 74†	44, 46*, 71†
Second home Fuels for house heating, water heating, cooking Clothes washing machine Clothes dryer Dishwasher Home food freezer Television Battery operated radio	37, 42*	37, 42*	37, 42*	45, 47*	50, 52*	45, 47*
FINANCIAL CHARACTERISTICS						
Value Contract rent	4, 6*	4, 6*, 34, 39*	-	10, 11*, 69†	15, 16*, 72†	10, 11*, 69†
Gross rent	36, 41*	36, 41*	-	44, 46*, 71†	49, 51*, 74†	44, 46*, 71†

[1] All vacant units in rural territory are included as rural nonfarm. Data on Financial Characteristics are not shown separately for rural nonfarm and rural farm units.

[2] See correction note, page 72, for farm and nonfarm residence.

Table No.	Report (Chapter)
1 - 30	HC(1)-A
31 - 83	HC(1)-B

Places of-				Counties		Subject
50,000 inhabitants or more	10,000 to 50,000 inhabitants	2,500 to 10,000 inhabitants	1,000 to 2,500 inhabitants	Total	Rural[1] Rural farm[2]	
1, 5*, 31, 38*	1, 5*, 31, 38*	-	27, 28*	29, 30*	68†	SUMMARY CHARACTERISTICS
8, 11*, 69†	18, 21*, 75†	23, 25*, 78†	-	60, 64*, 81†	60	TOTAL HOUSING UNITS
8, 11*, 69†	18, 21*, 75†	23, 25*, 78†	-	60, 64*, 81†	60	TOTAL POPULATION
						OCCUPANCY CHARACTERISTICS
8, 11*, 69†	18, 21*, 75†	23, 25*, 78†	-	60, 64*, 81†	60	Occupied housing units Tenure Population per occupied unit
8	-	-	-	-	-	Cooperative or condominium
44, 46*, 71†	54, 56*, 77†	58, 59*, 80†	-	62, 66*, 83†	62	Year moved into unit
						VACANCY CHARACTERISTICS
8	18	23	-	-	-	Vacant housing units
8	18	-	-	60	60	Homeowner vacancy rate Rental vacancy rate
10	20	23	-	60	60	Duration of vacancy
						UTILIZATION CHARACTERISTICS
9, 12*, 70†	19, 22*, 76†	23, 25*, 78†	-	60, 64*, 81†	60	Number of rooms Size of household (persons) Persons per room
45, 47*	55, 57*	-	-	63, 67*	63	Bedrooms
						PLUMBING CHARACTERISTICS
8, 11*, 69†	18, 21*, 75†	23, 25*, 78†	-	60, 64*, 81†	60	Plumbing facilities Piped water Flush toilet Bathtub or shower
43, 46*, 71†	53, 56*, 77†	58, 59*, 80†	-	62, 66*, 83†	62	Complete bathrooms Source of water Sewage disposal
						STRUCTURAL CHARACTERISTICS
8, 11*, 69†	18, 21*, 75†	23, 25*, 78†	-	60, 64*, 81†	60	Complete kitchen facilities
8, 11*, 69†	18, 21*, 75†	-	-	-	-	Access
8, 12*, 43, 46*, 71†	18, 22*, 53, 56*, 77†	23, 25*, 58, 59*, 80†	-	62, 66*, 83†	62	Units in structure Mobile home or trailer Year structure built
43	53	-	-	-	-	Easement
45, 47*	55, 57*	-	-	-	-	Elevator in structure
						EQUIPMENT, FUELS, AND APPLIANCES
8, 12*, 70†	18, 22*, 76†	58, 59*, 80†	-	62, 66*, 83†	62	Telephone available
44, 46*, 71†	54, 56*, 77†	58, 59*, 80†	-	62, 66*, 83†	62	Heating equipment Air conditioning Automobiles available
45, 47*	55, 57*	-	-	63, 67*	63	Second home Fuels for house heating, water heating, cooking Clothes washing machine Clothes dryer Dishwasher Home food freezer Television Battery-operated radio
						FINANCIAL CHARACTERISTICS
10, 11*, 69†	20, 21*, 75†	24, 26*, 79†	-	61, 65*, 82†	61	Value Contract rent
44, 46*, 71†	54, 56*, 77†	58, 59*, 80†	-	62, 66*, 83†	62	Gross rent

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Note: What follows is an index to topics discussed in this manual-it is not an index to subjects in population and housing censuses and surveys. For indexes to 1970 census subject matter see the Index to Selected 1970 Census Reports and the 1970 Census Users' Guide.

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